Leaving pleasure

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Positive Emotions and Goal-Directed Behavior

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Proefschrift

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for Paulo, my partner in all things

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Contents

1

Leaving Pleasure

An Introduction

SHOULD I RETURN to that restaurant where I had so much fun in the past? Should I buy these shoes that I like so much? This chocolate cake looks so yummy–and I have already lost so much weight–is it okay if I have just a bite? Should I keep working so hard and saving so much money or should I enjoy life more, perhaps spend more? Small temptations, important choices and occasionally existential dilemmas, these are the questions that pervade our everyday experience, and emotions feature in all of them. But how do emotions shape these consumption decisions? Do we always do what feels good right now or do we sometimes do what feels bad but is perhaps better in the long run? When do we listen to our emotions and when do we try to avoid them? These are the questions to which this dissertation is devoted.

In the psychology of consumption, with joy as well as pride, with delight as well as hope, addressing these questions requires understanding the role of positive

emotions in shaping consumers' experiences, judgments and choices.[1] There is evidence that pursuing and experiencing positive emotions is central to consumption. To achieve happiness is the most important goal for most people in almost every culture (Diener 2000) and consumption itself has become a culturally accepted route to attain it (Csikszentmihalyi 2000; Holbrook and Hirschman 1982; Kahneman et al. 2004; Schor 1998). Richins (1997) found, for instance, that the majority of consumers typically report experiencing positive emotions across a wide variety of consumption contexts (see also Derbaix and Pham 1991; Kahneman et al. 2004). Research has also shown that the belief that consumption is integral to the pursuit of happiness is central to today's increasingly materialistic lifestyle (Belk 1985; Richins and Dawson 1994). People often identify big-ticket consumer goods such cars, traveling abroad, swimming pools, and vacation homes as part of "the good life"–a life of happiness and pleasure to which they aspire (Easterlin 2003). Also, consumers have been found to consciously give themselves gifts for the sole purpose of making themselves feel better and experiencing pleasure (Mick 1996). Research has further shown that not only is consumption a means of pursuing pleasure by acquiring desired possessions, but also that the process of searching and buying can be itself a source of positive feelings (Babin, Darden, and Griffin 1994; Bloch, Sherrell, and Ridgway 1986; O'Guinn and Faber 1989).

The pursuit of happiness through consumption as a central and defining phenomenon of contemporary societies is also reflected in the marketing activities of companies across a wide range of industries, from low-involvement consumer

[1] Throughout this dissertation, the focus is on emotions that arise in response to a specific target (i.e., what we feel emotional about, such as a product, a brand, an event, an advertisement, a person, or a place), not on other levels of affective phenomena such as broad, free-floating affective states or moods that lack a specific referent and arise from background conditions (e.g., fatigue, exercise, or finding a dime) (for more detail see Clore, Schwarz, and Conway 1994).

package goods to high-involvement service industries. From McDonald's Happy Meal to Prozac ("The happy pill"), from self-help books to toys, from Hollywood to Disney ("The Happiest Place on Earth"), selling happiness has become a core element of the marketing strategy of many companies. As research by Belk and Pollay (1985) shows, over the past 100 years advertising has progressively portrayed consumption as the primary vehicle for pursuing pleasure.

The primacy of positive emotions in consumption highlights the importance of developing a deeper understanding of the anatomy of positive emotions and their effects on consumer behavior–how positive emotions are cultivated and how they shape a variety of consumption outcomes.[2] The assumption that consumers are motivated to feel good, move toward pleasure and away from pain, has dominated psychological theories on the role of emotions in consumption (e.g., Holbrook and Hirschman 1982; Pham 1998) and daily life (e.g., Freud 1920/1950; Larsen 2000). The prevalent notion arising from this pleasure principle is that it is good to feel good, that consumers always choose the options that elicit more positive feelings, and that the ability to generate positive emotions is unvaryingly rewarded with favorable

[2] Interestingly, the importance of studying positive emotions has been recently recognized in psychology, a field which has traditionally been biased towards the study of negative emotions (for a detailed review see Fredrickson 1998). The appreciation of the significance of positive emotions became widely acknowledged with Martin Seligman's presidency of the American Psychological Association in 1998. In his Presidential Address he called for research examining human strengths and virtues, which he termed positive psychology. As Seligman put it "[there is one area] in which psychology of the late 20th century has not played a large enough role in making the lives of people better . . . . [this] area cries out for what I call 'positive psychology,' that is, a reoriented science that emphasizes the understanding and building of the most positive qualities of the individual" (Seligman 1999, p. 559).

This call to action has had a profound impact on both scholarly work and mass media interest. For instance, it has stimulated a considerable growth in research on positive emotions and the positive aspects of human functioning (Carver 2003; Fredrickson 1998, 2001; Special issue on Positive Psychology, American Psychologist 2000). In 1999, "Well-Being: The Foundations of Hedonic Psychology" appeared as the title of a book announcing the existence of a new field of psychology–hedonic psychology–the study of what makes experiences in life pleasant or unpleasant (Kahneman, Diener, and Schwarz 1999). There have even been proposals for the use of national indexes of happiness as important instruments for the development and evaluation of public and corporate policies (e.g., Diener 2000; Veenhoven 2002). Recently, on January 17, 2005, *Time* magazine devoted an entire issue to "The New Science of Happiness."

behaviors such as loyalty and positive word-of-mouth. In other words, people always return to the places they like, buy the shoes they love and eat the cake.

In this dissertation, I propose to go beyond the pleasure principle of human motivation and argue that, rather than uniformly pursuing pleasure or invariably reiterating the choices that have produced pleasure in the past, consumers do not always follow and sometimes even avoid positive emotions (and accept pain) in the service of other consumption goals. People do not always return to the places they like, buy the products they love or eat the forbidden delights, no matter how strong their feelings. Instead, they sometimes decide to search for better options, save their money or, in their eagerness to attain slimness, stick to their diet. The purpose of this dissertation is then to explore how people adapt their emotional responses and their affect-laden behaviors to meet the motivational and situational demands of the task at hand. In attempting to understand the contingencies of emotional responding, I view affect as a highly versatile system that provides individuals with a rich repertoire of affective response options that can be flexibly employed. I provide empirical evidence on the versatility of the affective system, its limits, and the processes underlying it.

OVERVIEW OF THE DISSERTATION

An overview of the empirical chapters in this dissertation (Chapters 2-4) is presented in Table 1.1. The central theme underlying all the chapters is the notion that, rather than invariably pursuing pleasure, consumers' affective responding can be highly versatile allowing them to respond meaningfully and adaptively to both ongoing goals and the perceived demands of the tasks at hand. I discuss and investigate different facets of this versatility in the linkage between emotional experiences and behavioral responses across a variety of consumption phenomena including judgments, decision-

making, product choice and post-purchase behavior, and a diverse set of products such as shoes, computers, weight-loss drinks, and digital cameras. In doing so, I employed a wide range of approaches. The studies varied from experiments to more naturalistic longitudinal daily diary questionnaires and experience-sampling surveys, took place in the field and in the laboratory, and ranged from fully randomized to cross-sectional and longitudinal designs.

The chapters provide diverse perspectives on the notion that consumers can go beyond the pursuit of pleasure by examining the shifting links between emotions, goals and consumer behavior. Chapters 2 and 3 address the motivational contingencies of the linkage between experienced emotions and subsequent behavior. In contrast, Chapter 4 examines how the anticipated influences of current emotions on behavior impacts emotion regulation. These dynamics are investigated for single (Chapters 2 and 4) and multiple goal environments (Chapter 3), and for both generalized goal orientations (Chapter 2) and specific goals set by consumers themselves or experimentally manipulated (Chapters 3 and 4). Although the focus throughout the chapters is primarily on positive emotions–both general (Chapters 3 and 4) and specific (Chapter 2)–Chapter 3 also explores the effects of negative emotions, striking a balance between the positive and the negative in consumption. Finally, while Chapters 2 and 3 emphasize how emotions shape consumer responses, Chapter 4 examines how consumers can sometimes shape their own emotions. The closing chapter (Chapter 5) complements and extends the previous chapters by exploring the notion that consumers possess a rich and varied repertoire of responses to their emotional experiences, and delineating a model that outlines the mechanisms by which consumers' affective response is continuously adjusted to match ongoing variations in motivational and environmental demands.

TABLE 1.1. Overview of Empirical Chapters

	Chapter 2	Chapter 3	Chapter 4
Focus	Behavioral consequences of positive emotions	Emotions and resource allocation across multiple goals	Self-regulation of positive emotions in consumption environments of varying decision complexity
Emotional experience	Pride	Goal-related positive and negative emotions	Product-induced positive emotions
Motivational context	Self-regulatory goals: promotion versus prevention goals	Goal prioritization in multiple-goal environments Temporal focus: proximal versus distal goal attainment	Temporal focus: consideration of immediate versus future consequences of current actions
Behavior	Repurchase intentions	Allocation of goal-directed effort: persisting versus shifting	Decision making process + Product choice
Psychological mechanism	Information requirements: sufficiency versus necessity	Goal expectancy	
Methodology	Experiments	Longitudinal daily diary + Experiment	Experience sampling + Experiment
Key findings	Consumers do not always repeat behaviors that have led to positive emotions in the past. The link between emotion and behavior is contingent on consumers' self-regulatory goals.	In multiple-goal environments, consumers can both repeat and avoid behaviors that have led to positive or negative emotions in the past as a function of goal distance.	Consumers do not invariably strive to maintain positive emotions; instead they can dampen them in the service of other consumption goals. Dampening varies as a function of consumers' temporal focus and decision complexity.

The collection of chapters in this dissertation draws on multiple literatures such as emotion theory, goal theory, self-regulation, mental control, behavioral decision-making, and temporal focus. It builds on the work of leading scholars including Carver and Scheier (1998), Fredrickson (2001), Freud (1920/1950), Higgins (1997), Schwarz and Clore (1996), Simon (1967), and Wilson and Brekke (1994). An important premise of these chapters is that in order to account for the multifaceted role of emotions in consumption academic inquiry must go beyond the pleasure principle and explore the motivational contingencies of consumer behavior. Collectively, the chapters in this dissertation shed new light on the versatility of the affective system.

LOOKING AHEAD

The rest of the dissertation is organized as follows. Chapter 2 explores how differences in regulatory focus influence whether or not consumers' decisions and choices are driven by the pursuit of pleasure. Contrary to the common assumption that positive emotions generally lead to favorable behavioral intentions, feelings of pride can decrease consumers' repurchase intentions. Results from three experimental studies demonstrate that the impact of pride on repurchase intentions is indeed contingent on consumers' self-regulatory goals but that this is so only among consumers with high levels of pride. Specifically, consumers with high prevention pride are less likely to repurchase than those with high promotion pride, whereas no difference arises between consumers with low promotion pride and those with low prevention pride. These effects generalize across situational and chronic differences in self-regulatory goals and are accompanied by differences in consumers' information requirements.

Chapter 3 shows that, in multiple-goal environments, whether or not goal-directed behavior is congruent with the hedonic principle of approaching pleasure and avoiding pain or with the operation of a homeostatic control process that promotes affective neutrality (Carver and Scheier 1998) is determined by goal distance. The chapter presents and tests a model of multiple goal pursuit that specifies how individuals selectively allocate effort among multiple goals over time. The model predicts that whether individuals decide to step up effort, coast, give up the current goal, or take up pursuit of another goal is determined jointly by the emotions that flow from goal progress and by the proximity to future goal attainment. In support of the proposed model, results from a longitudinal diary study and a controlled laboratory experiment show that positive and negative goal-dependent emotions do not universally lead to persisting or shifting in goal pursuit, but instead that both can have diametrically opposing effects on goal-directed behavior depending on goal proximity. Results also reveal that these effects are linked to a pattern of change in goal expectancy. The findings resolve contrasting predictions about the influence of positive and negative emotions in volitional behavior, and provide new insights into the dynamics and determinants of multiple goal pursuit.

Chapter 4 addresses whether and when consumers who already experience positive emotions toward a product are willing to forsake the basic human motive of pursuing pleasure in order to satisfy other consumption goals, such as making good decisions. To function effectively, consumers must be able to prevent the biasing influence of positive emotions that may lead to erroneous or suboptimal judgments or decisions. Contrary to the common assumption that people are generally blind to their own biases, this chapter shows that consumers can detect bias and inoculate their decision behavior against the biasing influences of positive emotions. They do so by

dampening their positive emotions toward a tentatively preferred product. Using both experience sampling and experimental methodologies, the results show that dampening is jointly determined by the complexity of the specific decision and the weight attached to the immediate or future outcomes of the decision. Dampening is highest when decision complexity is moderate and consumers focus primarily on the future outcomes of their current actions. Results also reveal that dampening positive emotions has clear and adaptive implications for the depth of decision processing, purchase decisions, and choice confidence.

Taken together, the findings reported in the following chapters suggest that the affective system can be highly versatile and adapt to variations in consumers' goals and environmental demands by oscillating between distinct patterns of affective functioning. More specifically, to meet shifting contingencies the affective system (a) may or may not be driven toward pleasure (pleasure principle), (b) may or may not be driven toward a baseline level of affect (principle of hedonic homeostasis), or (c) may alternate between these two principles. Chapter 5 takes a step further and outlines the fundamentals of a more general model of affective functioning that attempts to reconcile and extend these seemingly contrasting conceptualizations on the fundamental dynamics of the affective system: the pleasure principle and the principle of hedonic homeostasis. The pleasure principle views affect as a system for signaling sources of pleasure and pain in the environment that directs consumer actions toward positivity. The principle of hedonic homeostasis views affect as a system for signaling discrepancies from a baseline level of affect that activates discrepancy-reducing responses once such deviations emerge. In this chapter, I propose an *allodynamic* model of affective functioning that affords consumers considerably versatility in matching the emotion-behavior link to shifting motivational and environmental

demands. This perspective may offer an important advance over prior conceptualizations of the affect system: it suggests that the pattern of affective response may be variable rather than fixed (approach pleasure vs. maintain a baseline level of affect). In this way, it sheds new light on how consumers continuously adapt how they respond to consumption emotions in order to produce the right responses, about the right stimuli, at the right time.

2

Negative Returns on Positive Emotions

The Influence of Pride and Self-Regulatory Goals on Repurchase Decisions[3]

A COMMON ASSUMPTION in marketing is that positive consumption-related emotions stimulate subsequent positive behaviors, such as repurchase at a particular store. This assumption stems from the valence approach to emotions (Bagozzi et al. 2000; Lerner and Keltner 2000), which posits that the influence of emotions on behavior is determined *only* by their valence (positive or negative). Hence, different positive emotions should exert a similar, positive, influence on behavior because they share the same, positive, valence. However, recent theorizing suggests that positive emotions may *broaden* individuals' thought-action repertoires with, for instance, pride driving individuals toward greater future achievements (Fredrickson 2001). Thus, pride may expand consumers' search and decision processes, leading to lower

[3] This chapter is adapted from Louro, Maria J., Rik Pieters, Marcel Zeelenberg (2005), "Negative Returns on Positive Emotions: The Influence of Pride and Self-Regulatory Goals on Repurchase Decisions," *Journal of Consumer Research*, 31 (March), 833-840.

repurchase intentions. It is therefore unclear whether or not all positive emotions generally lead to repurchase.

This chapter investigates how feelings of pride may influence consumers' repurchase intentions. Because pride is associated with goal attainment, we conjecture that the effect of pride on repurchase intentions may depend on the type of self-regulatory goals that consumers have. According to regulatory focus theory (Higgins et al. 2001), pride may stem from the attainment of promotion or prevention self-regulatory goals. For example, a consumer could see his/her success in negotiating a discount as a way to gain money (promotion pride) or to avoid paying extra money (prevention pride). Results from three experimental studies demonstrate that, rather than all positive emotions being generally conducive to repurchase, pride can decrease repurchase intentions depending on consumers' self-regulatory goals. Also, this phenomenon is independent of consumer satisfaction and emerges across situational and chronic differences in self-regulatory goals. Finally, the effects reflect differences in consumers' information requirements. Taken together, these results provide support for a self-regulation framework that accounts for when and why positive emotions do and do not promote repurchase intentions.

PRIDE AND REPURCHASE DECISIONS

Pride is a positive emotion that is experienced following a positive evaluation of one's competence or effort in achieving a goal (Weiner 1986), such as feeling responsible for obtaining a discount (Schindler 1998). It is a pleasant feeling, associated with self-achievement, autonomy, and disengagement from others (Rodriguez Mosquera, Manstead, and Fischer 2000).

Previous work on the influence of emotions on satisfaction and subsequent

behaviors has generally contrasted positive versus negative emotions elicited during consumption, highlighting the extent to which these emotions have distinct effects on behavior (e.g., Oliver 1980; Nyer 1997). This stream of research, adopting a valence approach to emotions, has found that positive emotions generally increase satisfaction, leading to subsequent favorable behavioral intentions, whereas negative emotions have the opposite effect (Szymanski and Henard 2001). Generalizing previous research within the valence approach, one would predict that pride, being a positive emotion, should also promote repurchase intentions.

Yet, another line of evidence suggests that pride, despite its positive valence, may have the opposite effect, leading to lower repurchase intentions. Fredrickson (2001) suggests that pride may expand individuals' scope of attention and broaden their action repertoires by driving them toward greater achievements in the future. Pride can thus lead to a broadening of consumers' search and decision processes, which may in turn reduce the likelihood of repurchase. In addition, pride elicits a sense of autonomy by focusing individuals on their own role in attaining desired ends (Rodriguez Mosquera et al. 2000), which should inform consumers that they are capable of attaining positive outcomes through their personal effort or ability (i.e., independently of the chosen provider). This may also lower the likelihood of repurchase.

The Influence of Self-Regulatory Goals

Because pride is the emotional consequence of successful goal attainment, its effect on repurchase intentions may depend on the type of goals that consumers pursue. There is evidence that goals can take the form of pursuing desirable ends (promotion goals) or avoiding undesirable ends (prevention goals) (Higgins 2002). Regulatory

focus theory (Higgins et al. 2001) differentiates promotion pride, which originates from achieving positive outcomes and involves behavioral self-regulation toward the achievement of ideals, from prevention pride, which arises from avoiding negative outcomes and involves behavioral self-regulation toward security.

Building on regulatory focus theory, we conjecture that consumers with high prevention pride will be less likely to repurchase than those with high promotion pride. This prediction is based on evidence that consumers with high promotion pride and those with high prevention pride are likely, in new purchase situations, to use different means to achieve their desired ends (Higgins et al. 2001). Specifically, high promotion-pride consumers are sensitive to the opportunities that arise, in order to minimize the absence of positive outcomes (i.e., nongains). Having found a satisfactory provider, they should be more likely to consider repurchase at this provider as an opportunity for goal achievement. Conversely, high prevention-pride consumers are motivated to minimize the presence of negative outcomes (i.e., losses) by being vigilant and restraining their impulses. They should be more sensitive to the potential negative outcomes associated with the decision to immediately return to a provider, in particular to the loss of attractive offers that might be available elsewhere. Thus, they should be less likely to return to the current provider. Low-pride consumers, in contrast, believe that their success stems from the actions of others (e.g., a particular provider). Hence, they should be likely to return to the current satisfactory provider, regardless of their self-regulatory goals. Thus, we predict that:

H1a: Consumers with high prevention pride will be less likely to repurchase than consumers with high promotion pride.

H1b: Consumers with low pride will be likely to repurchase independent of differences in self-regulatory goals.

If consumers with high prevention pride would at the same time be less satisfied than those with high promotion pride, then this could account for their lower repurchase intentions. However, there is reason to believe that consumers with high promotion pride and those with high prevention pride may be equally satisfied, because both succeed in attaining their goals. Thus, it is important to examine the predictions while controlling for satisfaction. Building on research showing that specific negative emotions influence behavior over and above satisfaction (Bougie, Pieters, and Zeelenberg 2003; Zeelenberg and Pieters 1999), we predict that:

H2: The effects of pride and self-regulatory goals on repurchase intentions are independent of consumer satisfaction.

Support for these predictions would imply that, rather than positive emotions being generally conducive to repurchase, the effect of pride on repurchase intentions is contingent on consumers' self-regulatory goals. It would also demonstrate that these effects are independent of consumer satisfaction. These predictions are tested in Study 1.

Information Requirements as a Mediational Mechanism

Thus far, we have reasoned that the moderating effect of self-regulatory goals on the link between pride and repurchase intentions operates only for consumers with high pride, but we have not detailed the underlying process. We expect that differences in consumers' information requirements may account for this effect. Specifically, because consumers with high prevention pride are inclined to adopt precautionary measures to avoid mistakes (Higgins et al. 2001), they should be sensitive to the possibility of losing attractive outcomes by failing to consider other providers. Hence,

we predict that they will consider obtaining information on alternative providers as a *necessary* means to avoid losses, and thus will be less likely to repurchase. Conversely, because consumers with high promotion pride focus on taking advantage of the opportunities that arise, they should consider having information about a satisfactory provider as a *sufficient* means to immediately achieve their goals, and thus will be more likely to repurchase. There is some, albeit indirect, support for this prediction from research by Roese, Hur, and Pennington (1999) suggesting that promotion-focused individuals are more likely to specify just one counterfactual as sufficient to obtain a desired end, whereas prevention-focused individuals are more likely to identify multiple counterfactuals as necessary to avoid an undesirable end.

In addition, because consumers with low pride attribute their success to a specific provider rather than to themselves, they should be more likely to consider having information on a satisfactory provider as a *sufficient* means to achieve their desired ends regardless of their self-regulatory goals, and thus will be more likely to repurchase. Hence, we hypothesize that:

H3: The influence of pride and self-regulatory goals on repurchase intentions is mediated by consumers' information requirements.

STUDY 1: SITUATIONALLY INDUCED SELF-REGULATORY GOALS AND THE PRIDE-REPURCHASE LINK

Study 1 tests the prediction that consumers' self-regulatory goals influence the pride-repurchase link (hypotheses 1a and 1b) by temporarily manipulating promotion and prevention goals. Also, it tests hypothesis 2 that these effects are independent of consumer satisfaction.

Method

A total of 120 undergraduate students (66 females) participated in return for course credit. They were randomly assigned to the cells of a 2 (high vs. low pride) × 2 (promotion vs. prevention goals) between-subjects design. Participants were instructed to read a scenario about a computer purchase. To manipulate participants' feelings of pride, we varied their role in obtaining a discount price for a laptop computer. In the high-pride condition, participants read that they got a discount due to their good negotiation skills. In the low-pride condition, the discount was obtained because the computer was on sale. Self-regulatory goals were manipulated by using language that emphasized the discount as either a gain or a nonloss; that is, the word "gain" was used to evoke promotion goals and the phrase "avoid losing" was used to evoke prevention goals. The scenario for the high-pride/promotion [prevention] condition is reported below:

> You want to buy a laptop computer. Last week, you saw the computer that you want at the InfoShop at a reduced price of $1500 instead of its regular price of $2000. Because you want to take advantage of this $500 gain [to avoid paying an extra $500], you decide to buy this computer at InfoShop, but you have not done this yet. Today, you return to InfoShop to buy the computer. You realize that the promotion was over two days ago and that the price of the computer is again the regular $2000. You think to yourself: "If I can convince the salesperson to sell me the computer at the promotional price, I will gain [avoid paying an extra] $500." Meanwhile, you notice another customer who tries to get the promotional price for the same computer and fails. The salesperson indicates that the price is nonnegotiable. In spite of this, you decide to give it a try. Due to your good negotiation skills, you succeed in gaining [avoid losing] the $500.

In the low-pride/promotion [prevention] condition the last sentences read: "Today, you return to InfoShop to buy the computer. You think to yourself: "If I buy this computer now, I will gain [avoid paying an extra] $500." Meanwhile, you notice that another customer in the store is just finishing buying the same computer for the promotional price. Afterwards, you approach the salesperson. The salesperson is willing to help you, and you buy the computer. With this purchase you gained [avoided losing] $500."

After reading the scenario, participants completed manipulation checks and reported their satisfaction and repurchase intentions. First, participants completed a check on the manipulation for regulatory focus (Roese, Hur, and Pennington 1999, p. 1113). The pride manipulation check had two items (r = .79): "To what extent did getting the $500 discount make you feel good about yourself?" (1 = Not at all; 7 = Very much) and "Think about your ability in getting the $500 discount. How much pride did you feel?" (1 = None; 7 = Very much).

Next, satisfaction was assessed by two items (r = .50) adapted from Oliver (1997): "Overall, how satisfied did you feel with the price you paid?" (1 = Not at all satisfied; 7 = Very much satisfied) and "Overall, how good or bad did you feel after this experience?" (1 = Bad; 7 = Good). As a test of discriminant validity, we compared a measurement model with the satisfaction and pride items loading on separate factors against an alternative model with all items loading on a single factor. A chi-square difference test (Kline 1998) demonstrated that the two-factor solution was superior ($\chi^2_{\text{difference}}$ (1, N = 120) = 21.27, p < .001), indicating discriminant validity between the measures.

Finally, repurchase intentions were measured by four items (α = .85) (adapted from Zeithaml, Berry, and Parasuraman 1996): "The next time that you want to buy

new computer hardware or software, will you immediately go back to InfoShop?" (1 = Definitely will not go back; 7 = Definitely will go back); "How likely are you to consider InfoShop your first choice the next time you buy new computer hardware or software?" (1 = Not likely; 7 = Extremely likely); "The next time you are considering buying new computer hardware or software, what is the probability that you would buy it at InfoShop?" (1 = Not probable; 7 = Very probable); and "Even though new computer hardware or software is available in a number of different stores, how often would you buy at InfoShop in the next few years?" (1 = Never or seldom; 4 = Sometimes; 7 = Always). As expected, a principal components analysis with varimax rotation showed that all four items strongly load on one factor accounting for 69% of the variance (eigenvalue = 2.77; average loading = .83). The entire procedure was presented on a personal computer, using the software program Authorware 6.0 (Macromedia Inc., 2001).

Results

Manipulation Checks

As expected, promotion-framed scenarios were perceived to reflect greater achieving relative to prevention-framed scenarios (M = 6.08 vs. 4.20; $F(1, 116) = 53.64$, $p < .001$). Also, participants reported greater pride in the high-pride than in the low-pride conditions (M = 5.70 vs. 4.42; $F(1, 116) = 26.30$, $p < .001$). No other effects were significant (see Table 2.1).

TABLE 2.1. Study 1: Means as a Function of Pride and Self-Regulatory Goals

	Low pride		High pride	
	Prevention goals	Promotion goals	Prevention goals	Promotion goals
Manipulation check for self-regulatory goals	3.83 (1.86)	6.07 (0.78)	4.57 (1.72)	6.10 (0.96)
Pride	4.40 (1.68)	4.43 (1.57)	5.63 (1.14)	5.77 (0.96)
Satisfaction	5.58 (0.78)	5.70 (0.60)	5.85 (0.78)	6.12 (0.63)
Repurchase intentions	5.05 (0.88)	4.87 (0.69)	4.19 (0.78)	4.98 (0.70)

NOTE.–All variables range from 1 to 7. Standard deviations are shown in parentheses. *n* = 30 for each cell.

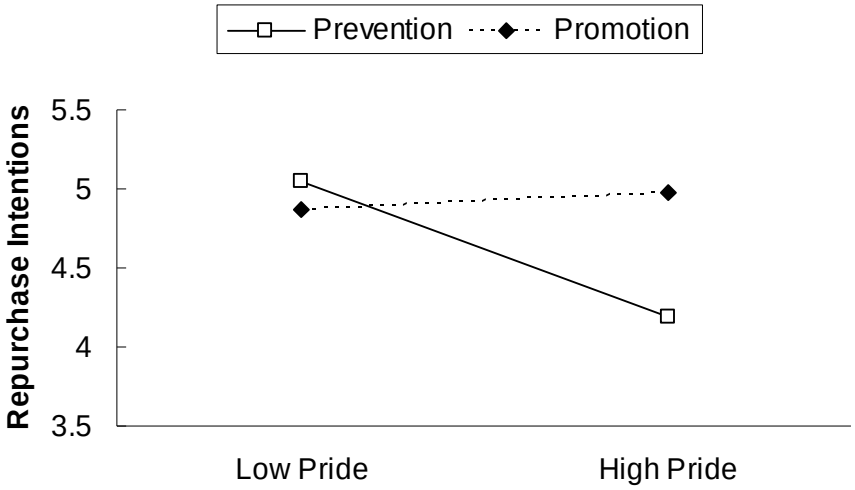
Satisfaction

Results of a 2 × 2 ANOVA of satisfaction yielded only a significant main effect of pride ($F(1, 116) = 7.16$, $p < .01$). Participants reported higher satisfaction in the high-pride conditions ($M = 5.98$) than in the low-pride conditions ($M = 5.64$).

Repurchase Intentions

Hypothesis 1a predicts that consumers with high prevention pride will have lower repurchase intentions than those with high promotion pride. Hypothesis 1b predicts that consumers with low pride will be likely to repurchase, independent of their self-regulatory goals. A 2 × 2 ANOVA of repurchase intentions revealed a main effect of pride ($F(1, 116) = 7.14$, $p < .01$) and self-regulatory goals ($F(1, 116) = 4.57$, $p < .05$). Repurchase intentions were lower in the high-pride conditions ($M = 4.58$) than in the low-pride conditions ($M = 4.96$), and lower in the prevention conditions ($M = 4.62$) than in the promotion conditions ($M = 4.92$). More importantly, these main effects were qualified by a significant pride × self-regulatory goals interaction, $F(1, 116) = 11.87$, $p < .01$ (see Figure 2.1). In support of hypothesis 1a, planned contrasts showed that participants with high prevention pride were less likely to repurchase ($M = 4.19$) than those with high promotion pride ($M = 4.98$; $F(1, 116) = 15.58$, $p < .001$). In support of hypothesis 1b, participants with low promotion ($M = 4.87$) and those with low prevention pride ($M = 5.05$) were equally likely to repurchase, irrespective of their self-regulatory goals ($F < 1$).

FIGURE 2.1. Study 1: Impact of Pride and Self-Regulatory Goals on Repurchase Intentions



To test whether this effect is independent of satisfaction (hypothesis 2), we performed a 2 × 2 ANCOVA on repurchase intentions, in which satisfaction was a significant covariate ($F(1, 115) = 8.24$, $p < .01$), and did not interact with any of the experimental factors. In support of hypothesis 2, all of the significant relationships documented in the 2 × 2 ANOVA, including the predicted pride × self-regulatory goals interaction ($F(1, 115) = 11.48$, $p = .001$), remained significant. Again, participants with high prevention pride reported lower repurchase intentions ($M = 4.18$) than participants with high promotion pride ($M = 4.89$; $F(1, 115) = 13.26$, $p < .001$). No effects were evident for participants with low pride ($M_{Prevention} = 5.12$ vs. $M_{Promotion} = 4.90$; $F(1, 115) = 1.26$, $p > .25$). This shows that pride and self-regulatory goals influence consumers' repurchase decisions over and above consumer satisfaction.

Discussion

Study 1 indicates that, rather than all positive emotions being generally conducive to repurchase, the effect of pride on consumers' repurchase intentions is contingent on their self-regulatory goals. Consumers with high prevention pride are less likely to repurchase than those with high promotion pride; in contrast, no such difference arises for low-pride consumers. Also, these effects are independent of consumer satisfaction. Hence, to understand the behavioral consequences of emotions it seems important to consider the type of self-regulatory goals that consumers pursue.

STUDY 2: INDIVIDUAL DIFFERENCES IN REGULATORY FOCUS AND THE PRIDE-REPURCHASE LINK

Study 2 tests whether the findings of Study 1 generalize to chronic individual differences in self-regulatory goals. It thus allows us not only to replicate the results of Study 1, but also to extend them to situations where differences in self-regulatory goals are chronic.

Method

A total of 204 undergraduate students (171 females) participated in return for class credit. Participants were randomly assigned to one of the conditions in a two-group design (high vs. low pride). Participants first completed the 11-item Regulatory Focus Questionnaire (RFQ; Higgins et al. 2001), that consists of two orthogonal subscales assessing chronic promotion and chronic prevention goal orientation. The promotion subscale (6 items) measures the extent to which an individual has chronically experienced promotion success (e.g., "I feel like I have made progress toward being successful in my life"). The 5-item prevention subscale assesses the extent to which

an individual has chronically experienced prevention success (e.g., “How often did you obey rules and regulations that were established by your parents?”). These items are rated on a 5-point scale (1= Never or seldom; 5 = Very often), and the responses are averaged to calculate distinct promotion and prevention scores. Higher scores on the separate subscales indicate greater chronic promotion and prevention goal orientations. The RFQ has displayed good reliability, validity, and strong test-retest reliability (Higgins et al. 2001). In the present study, both subscales were reliable ($\alpha_{Promotion} = .62$; $\alpha_{Prevention} = .73$) and uncorrelated ($r = .10$, $p > .15$), which is desirable. Next, participants were introduced to the same stimuli and measures used in Study 1 ($r_{Pride} = .67$, $r_{Satisfaction} = .52$, $\alpha_{Repurchase\ Intentions} = .87$), with the only difference that manipulations for regulatory goals were not included in the scenarios. That is, the word “gain” and the phrase “avoid losing” were not used. As in Study 1, the pride manipulation was effective (see Table 2.2).

Results and Discussion

To test whether pride and chronic individual differences in self-regulatory goals influence repurchase intentions in the hypothesized directions, repurchase intentions were submitted to a multiple regression with the following five predictors: (1) type of pride (-1 = low pride, 1 = high pride), (2) RFQ promotion, (3) RFQ prevention, (4) the interaction between 1 and 2, and (5) the interaction between 1 and 3. The results are summarized in Table 2.3.

TABLE 2.2. Study 2: Effects of Pride and Chronic Differences in Regulatory Focus on Repurchase Intentions, With and Without Controlling for Satisfaction

	Satisfaction omitted			Satisfaction included		
Predictors	*β*	*t*	*p*	*β*	*t*	*p*
Pride	-.25	-3.83	<.001	-.30	-4.71	<.001
RFQ promotion	.10	1.39	.167	.08	1.24	.215
RFQ prevention	-.18	-2.67	.008	-.18	-2.82	.005
Pride × RFQ promotion	.03	.45	.653	.02	.25	.800
Pride × RFQ prevention	-.20	-2.98	.003	-.15	-2.32	.022
Satisfaction	---	---	---	.33	5.16	<.001
R^2	.134			.237		
F (*df*), *p* value	6.104 (5, 198), $p < .001$			10.118 (6, 197), p <.001		

TABLE 2.3. Study 2: Means as a Function of Pride and Self-Regulatory Goals

	Low pride		High pride	
	Prevention goals	Promotion goals	Prevention goals	Promotion goals
Pride	3.96 (1.50)	4.29 (1.39)	5.52 (1.29)	5.84 (0.89)
Satisfaction	5.61 (0.77)	5.41 (0.81)	5.65 (1.26)	5.95 (0.79)
Repurchase intentions	4.89 (0.84)	4.91 (0.93)	3.99 (0.96)	4.82 (0.78)

NOTE.–All variables range from 1 to 7. Standard deviations are shown in parentheses. *n* = 51 for each cell.

Hypotheses 1a and 1b predict that chronic prevention pride, but not chronic promotion pride, will lead to lower repurchase intentions among consumers with high pride. Consistent with Study 1, the main effects of pride (β = -.25, p < .001) and RFQ prevention (β = -.18, p = .008) show that both decreased repurchase intentions. More importantly, there was a significant negative interaction between pride and RFQ prevention (β = -.20, p = .003), indicating that higher levels of both lead to lower repurchase intentions. This supports hypothesis 1a. In contrast, the interaction between pride and RFQ promotion was non-significant (β = .03, p = .653). This result, together with the negative main effect of pride, supports hypothesis 1b that lower pride leads to higher repurchase intentions, independent of promotion focus.

In order to clarify the nature of this two-way interaction, we used the procedure proposed and implemented by Higgins et al. (2001). Participants were classified in terms of whether, compared to others, they were relatively more chronic promotion- or chronic prevention-oriented on the basis of a median split on the difference between their RFQ promotion and RFQ prevention scores (the median was -.07). As a check, a t-test was run to ascertain whether the two groups formed actually differed in their regulatory focus scores. As expected, the chronic promotion focus group had a higher promotion orientation (M = 3.97) than the chronic prevention focus group (M = 3.47; t(202) = -7.58, p < .001). Similarly, the chronic prevention focus group had a higher prevention orientation (M = 4.21) than the chronic promotion focus group (M = 3.31; t(202) = 10.66, p < .001).

A two-way ANOVA with repurchase intentions as the dependent variable revealed a significant pride × self-regulatory goals interaction, F(1, 200) = 10.65, p = .001. Within the high-pride condition, participants with chronic prevention orientation reported having lower repurchase intentions (M = 3.99) than participants with chronic

promotion orientation (M = 4.82; $F(1, 200) = 19.74$, $p < .001$). As expected, no differences were found for low-pride participants ($M_{Prevention}$ = 4.89 vs. $M_{Promotion}$ = 4.91), $F < 1$. Consistent with Study 1, the effect of pride on repurchase intentions is contingent on consumers' chronic regulatory focus, but only among consumers with high pride (hypotheses 1a and 1b).

We tested hypothesis 2's prediction that the influence of pride and self-regulatory goals on repurchase intentions is independent of consumer satisfaction by adding satisfaction to the original multiple regression analysis, and by examining the change in the original parameters. The results are shown in the last column of Table 2.3. As expected, satisfaction significantly predicts repurchase intentions (β = .33, $p <$ .001). More importantly, in support of hypothesis 2, the pride × RFQ prevention interaction remains significant after controlling for satisfaction (β = -.15, p = .022). As in Study 1, pride and self-regulatory goals, rather than satisfaction, account for the pattern of results observed for the repurchase measure.

Jointly, Studies 1 and 2 show that situational and chronic individual differences in self-regulatory goals influence the emotion-behavior link in a similar manner. In high pride, situational or chronic prevention orientation is associated with lower intention to repurchase than is situational or chronic promotion orientation; no differences arise in low pride. Again, these effects are independent of consumer satisfaction.

STUDY 3: INFORMATION REQUIREMENTS AS THE MEDIATING MECHANISM

Study 3 tests whether the phenomenon observed in the first two studies is caused by differences in consumers' information requirements (hypothesis 3). An additional

objective of Study 3 is to provide a more direct test that the effects uncovered in the prior studies do not reflect the effects of negative self-conscious emotions. Specifically, one could argue that, in the high prevention-pride condition, negotiating a discount to avoid paying extra money may have triggered negative self-conscious emotions (e.g., embarrassment) in addition to pride, thereby reducing repurchase intentions. Finally, we use a new product category to increase generalizability.

Method

A total of 192 undergraduate students (107 females) participated in return for course credit and were randomly assigned to a 2 (high vs. low pride) × 2 (promotion vs. prevention goals) between-subjects design. Participants read a shoe-purchasing scenario. Pride and self-regulatory goals were manipulated as in Study 1. The scenario for the high-pride/promotion [prevention] condition is reported below:

> You are planning to buy a new pair of shoes. You start looking for it today. You find a nice pair of shoes at the Foot and Co. shoe store and you decide to buy these shoes. Although some shoes are on sale with a $25 discount, the specific shoes that you like are not. These shoes are priced at $100. You realize that you could gain [avoid losing] money if the shoes you like were also on sale. You decide to approach the salesperson. The salesperson indicates that the price is nonnegotiable. Yet, due to your good negotiation skills, you successfully manage to gain [avoid losing] $25.

In the low-pride/promotion [prevention] condition the last sentences read: "Like the other shoes in the store, the specific shoes that you like are on sale. These shoes, regularly priced at $100, have a $25 discount. You realize that you could gain [avoid losing] money if you buy the shoes now. You decide to approach the

salesperson. The salesperson is willing to help you, and you buy the shoes. With this purchase you gained [avoided losing] $25."

After reading the scenario, participants were first asked to assess both the necessity of obtaining information on other providers and the sufficiency of having information on the current provider in order to make a decision in the future. Each measure consisted of four seven-point items anchored at "not at all/very much." The order of the items measuring necessity and sufficiency was systematically varied across participants, and no order effect was found. The items measuring *necessity* were (α = .79): "To what extent is visiting many shoe stores necessary for making a good decision?"; "Do you think that you must look in several different stores before choosing where to buy shoes?"; "How important is it to obtain information on other shoe stores to make a good purchase in the future?"; and "Before deciding where to buy shoes, do you feel that it is required to check multiple stores?" The items measuring *sufficiency* were (α = .77): "Do you think that on a similar occasion going to Foot and Co. is sufficient in order to make a good decision?"; "Do you feel that you can make a good decision by simply considering the Foot and Co. store after this experience?"; "To what extent is having information on the Foot and Co. store enough to choose where to buy shoes?"; and "Is visiting the Foot and Co. store something that you feel is suitable to make a good purchase in the future?" Both scales were negatively correlated with each other (r = -.28, p < .001), and a factor analysis resulted in a two-factor solution (variance explained = 61%) with the predicted factor loadings.

Next, participants reported their repurchase intentions (α = .81), completed manipulation checks for pride (r = .65) and regulatory focus, and reported their satisfaction (r = .65) on the same scales as in Studies 1 and 2. An extra item was

added to check the regulatory focus manipulation (r = .73): "Obtaining the $25 discount was, in your opinion, a way to:" (1 = Move away from a negative outcome; 7 = Move toward a positive outcome). Finally, negative emotions were assessed by three seven-point items (α = .64) anchored at "not at all guilty/very guilty," "not at all embarrassed/very embarrassed," and "not at all ashamed/very ashamed."

Results

Manipulation Checks

The manipulation for self-regulatory goals was effective ($M_{\text{Prevention}}$ = 3.09 vs. $M_{\text{Promotion}}$ = 5.64; $F(1, 188) = 235.20$, $p < .001$). The pride manipulation was also effective. High-pride scenarios (relative to low-pride scenarios) were associated with greater pride (M = 5.77 vs. 4.14; $F(1, 188) = 86.19$, $p < .001$). No other effects were significant for all measures (see Table 2.4).

Satisfaction

Replicating Studies 1 and 2, a 2 × 2 ANOVA on satisfaction yielded only a main effect of pride ($M_{\text{Low Pride}}$ = 5.39 vs. $M_{\text{High Pride}}$ = 5.77; $F(1, 188) = 8.20$, $p < .01$).

Negative Self-Conscious Emotions

As expected, there were no differences between conditions on participants' self-reports of negative self-conscious emotions (all F's < 1). Overall, participants did not report feeling negative self-conscious emotions (M_{Overall} = 2.24).

TABLE 2.4. Study 3: Means as a Function of Pride and Self-Regulatory Goals

	Low pride		High pride	
	Prevention goals	Promotion goals	Prevention goals	Promotion goals
Manipulation check for self-regulatory goals	3.05 (1.11)	5.57 (1.11)	3.14 (1.18)	5.70 (1.19)
Pride	4.08 (1.48)	4.20 (1.34)	5.82 (0.87)	5.72 (1.08)
Satisfaction	5.30 (1.03)	5.48 (0.86)	5.76 (0.91)	5.77 (0.83)
Negative self-conscious emotions	2.07 (1.01)	2.27 (1.02)	2.35 (1.19)	2.26 (1.01)
Sufficiency	4.72 (1.07)	4.60 (0.84)	3.51 (0.90)	4.55 (1.14)
Necessity	3.29 (1.08)	3.28 (0.79)	4.80 (1.01)	3.42 (0.91)
Repurchase intentions	4.90 (0.99)	4.81 (0.75)	3.83 (1.12)	4.84 (1.10)

NOTE.–All variables range from 1 to 7. Standard deviations are shown in parentheses. n = 48 for each cell.

Repurchase Intentions

The results of a 2 × 2 ANOVA on repurchase intentions replicated the findings obtained in the prior studies (see Table 2.4). In particular, the expected pride × self-regulatory goals interaction was significant ($F(1, 188) = 14.39$, $p < .001$). Repurchase intentions were lower in the high prevention-pride condition than in the high promotion-pride condition ($M = 3.83$ vs. 4.84; $F(1, 188) = 24.31$, $p < .001$), and there were no differences in the low-pride conditions ($F < 1$). Thus, as in the previous studies, hypotheses 1a and 1b are supported. Consistent with hypothesis 2, this interaction remained significant after controlling for satisfaction ($F(1, 187) = 17.89$, $p < .001$), again reflecting the same pattern of means.

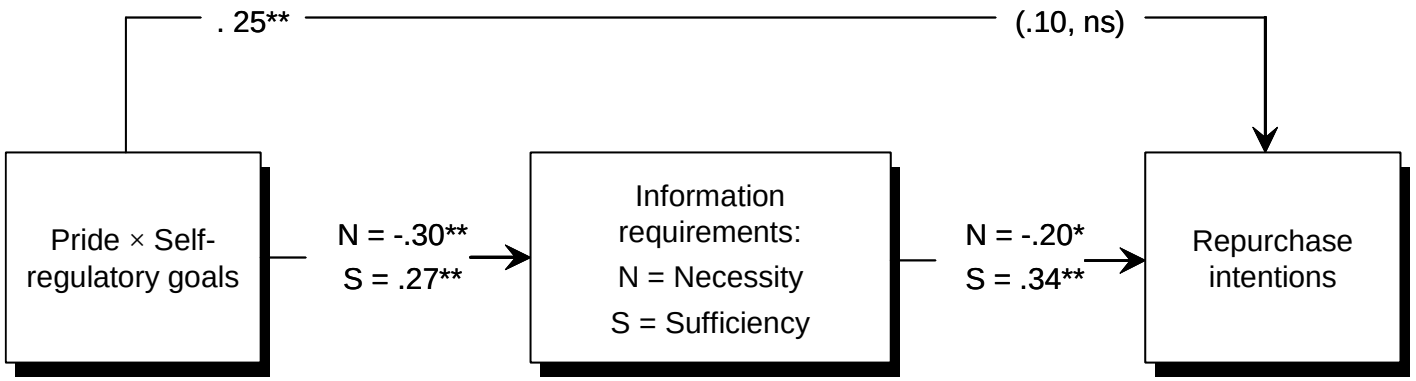
Information Requirements: Sufficiency versus Necessity

In support of our reasoning, the pride × self-regulatory goals interaction significantly predicted both sufficiency ($F(1, 188) = 16.49$, $p < .001$) and necessity ($F(1, 188) = 24.67$, $p < .001$). That is, examining the means across conditions (see Table 2.4), participants in the high prevention-pride condition were less likely to consider information on the current provider sufficient to make a decision than those in the high promotion-pride condition ($M = 3.51$ vs. 4.55; $F(1, 188) = 26.56$, $p < .001$), whereas participants in the low-pride conditions were equally likely to consider information on the current provider sufficient ($M_{\text{Prevention}} = 4.72$ vs. $M_{\text{Promotion}} = 4.60$; $F < 1$). In contrast, participants in the high prevention-pride condition were more likely to consider information on alternative providers necessary than those in the high promotion-pride condition ($M = 4.80$ vs. 3.42; $F(1, 188) = 50.10$, $p < .001$), whereas there was no difference in the low-pride conditions ($M_{\text{Prevention}} = 3.29$ vs. $M_{\text{Promotion}} = 3.28$; $F < 1$).

Mediation analysis

For more support that information requirements (sufficiency vs. necessity) account for the influence of pride and self-regulatory goals on repurchase intentions (hypothesis 3), we conducted mediational analyses according to the guidelines proposed by Baron and Kenny (1986). In the following set of regression analyses, pride was coded as a 1 for the high-pride condition, and as -1 for the low-pride condition. The promotion condition was coded as 1, and the prevention condition as a -1. As displayed in Figure 2.2, the first regression showed that the pride × self-regulatory goals interaction had a significant effect on repurchase intentions (β = .25, t = 3.79, p < .001). The following regressions showed that the pride × self-regulatory goals interaction also had a significant effect on both sufficiency (β = .27, t = 4.06, p < .001) and necessity (β = -.30, t = -4.97, p < .001). Finally, when pride, self-regulatory goals, and information requirements were simultaneously entered into the model to predict repurchase intentions, the effects of necessity (β = -.20, t = -2.63, p < .01) and sufficiency (β = .34, t = 4.90, p < .001) were significant in the expected directions. That is, considering information on alternative providers as necessary was related to lower intentions to repurchase, whereas considering information on the current provider as sufficient was related to higher intentions to repurchase. Importantly, in this latter model, the interactive effect of pride and self-regulatory goals lost its significance (β = .10, t = 1.52, p > .12). Together, these results provide support for the mediational role of information requirements.

FIGURE 2.2. Study 3: Results of the Mediation Analysis



Note.–Numbers are standardized regression weights.
* $p < .01$, ** $p < .001$.

Discussion

The results of Study 3 replicate once more the effects observed in the previous studies. More importantly, the results indicate that the effect of pride and self-regulatory goals on repurchase intentions is mediated by consumers' information requirements, as hypothesized. In addition, Study 3 shows no influence of the manipulations on self-reported feelings of negative self-conscious emotions, suggesting that the observed behavioral effects are driven by pride and regulatory goals, an not by negative self-conscious emotions.

GENERAL DISCUSSION

Contrary to common thinking in marketing that positive emotions are generally conducive to favorable behavioral intentions, pride can reduce consumers' repurchase intentions. This research demonstrates that the type of self-regulatory goals that consumers have is a key factor moderating the impact of pride on repurchase intentions. Results from three studies show that consumers with high prevention pride are less likely to repurchase than those with high promotion pride, whereas no difference arises for low-pride consumers. This phenomenon generalizes across situational (Studies 1 and 3) and chronic differences in regulatory focus (Study 2), and the effects are independent of satisfaction (Studies 1-3), and negative self-conscious emotions (Study 3). Finally, this research shows that these effects are paralleled by differences in consumers' information requirements (sufficiency vs. necessity) (Study 3). The consistency of the findings across multiple measures of self-regulatory goals and different stimuli highlights the importance of specific emotions and regulatory focus effects in consumer behavior contexts.

These findings contribute to regulatory focus research in several ways. First,

previous research has shown that regulatory focus influences the type and intensity of experienced emotions (Higgins, Shah, and Friedman 1997), and the reliance on affective information in persuasion (Pham and Avnet 2004). Our results extend this by demonstrating that consumers' self-regulatory goals are also a key factor moderating the impact of emotions on behavior. Second, to our knowledge the present research is the first to show that consumers with high promotion pride and those with high prevention pride differ in the information they require in order to make a decision. Our research shows that, in high pride, consumers with a promotion focus consider current information as sufficient to make a decision, whereas consumers with a prevention focus consider that obtaining additional information is necessary to make a decision. This extends previous work that links the promotion and prevention systems with the use of distinct strategic means (eagerness vs. vigilance) to attain desired ends (Higgins et al. 2001), by showing that these two systems also differ in the type of information requirements (sufficiency vs. necessity) that they evoke.

The current research also has implications for recent theorizing on positive emotions. Research by Fredrickson (2001) suggests that positive emotions may broaden individuals' thought-action repertoires. Our results extend this by suggesting that this broadening effect may be contingent on consumers' regulatory goals, and that narrowing may occur under a promotion focus. Further research is needed to examine whether this broadening versus narrowing effect emerges for other positive emotions and motivational principles beyond the ones studied here.

The findings reported in this research also speak to the pricing and promotions literature. Previous research has found that perceived responsibility for obtaining a discount elicits positive feelings (with pride being the dominant emotion), and enhances the likelihood of repurchase (Schindler 1998). Our research extends this by

showing when and why the reverse effect can occur. We found that the impact of pride on repurchase intentions is contingent on consumers' regulatory focus, and that this effect reflects differences in consumers' information requirements. Also, our findings indicate that this phenomenon is independent of satisfaction, underscoring the relevance of adopting a specific-emotion approach (e.g., Zeelenberg and Pieters 1999).

Future research could draw on the notion of regulatory fit (Higgins 2002) to explore the joint effects of chronic individual and temporarily induced differences in regulatory focus on behavior. For instance, one could argue that consumers' response to price promotions framed as opportunities to gain or to avoid paying extra money may differ according to their chronic regulatory focus. Specifically, consumers with chronic promotion pride may derive higher subjective value from price promotions framed as gains than as nonlosses.

In conclusion, the present research sheds light on an important and unexplored aspect of consumer behavior. We show that, in addition to their independent influences on behavior, positive emotions and motivational principles jointly influence both the decisions that consumers make and the patterns of information acquisition that they use to reach these decisions. In this way, the present chapter shows how positive emotions may have negative returns.

3

Dynamics of Multiple Goal Pursuit

BECAUSE PEOPLE OFTEN strive to attain multiple goals simultaneously, everyday life seems a juggling act between, among others, working, making time to be with family and friends, trying to find that special someone, and exercising. Although "having it all" is certainly an attractive prospect, there are often limits on how many goals one can pursue at a given time. Attempts to attain all of one's goals are constrained by the fact that pursuing each goal requires energy, time, and attention, with only a limited pool of personal resources being available for pursuing those goals at any point in time (Muraven, Tice, and Baumeister 1998; Shallice 1972; Wilensky 1983). Indeed, the presence of two or more desirable goals leads to an approach-approach conflict in which moving toward one of the goals may even result in moving away from at least one other goal, as suggested by classic research on motivation (Miller 1944; Lewin 1935). For example, it is hard to quit smoking and try to control eating behavior (Mizes et al. 1998) or alcohol consumption (Hays et al. 1999) at the same time. As a

result, much of our daily activity involves making decisions about in which goals to invest time and energy next. This task of reconciling the competing demands that multiple goals place on an individual's pool of limited resources calls for a theory of multiple goal pursuit that accounts for selectivity in effort allocation among different goals over time.

Although the simultaneous pursuit of multiple goals appears to be the norm in everyday life (Atkinson and Birch 1970; Dodge, Asher, and Parkhurst 1989; Miller, Galanter, and Pribram 1960; Simon 1967) and we know much about the well-being implications of multiple goal conflicts (e.g., Emmons and King 1988; Riediger and Freund 2004; Schmuck and Sheldon 2001) and the determinants of successful single-goal pursuit (cf. Austin and Vancouver 1996; Locke and Latham 1990; Vohs and Baumeister 2004), much less is known about the flow of goal-directed behavior in multiple-goal striving. This leaves foundational questions regarding the dynamics of multiple goal pursuit unanswered.

Given multiple goals, how do individuals determine which goals are most important to attend to at a given time? And when do individuals recalibrate their system of goal priorities from one time to the next? Specifically, when will individuals, already pursuing one goal, persist in that goal domain, abandon the goal, or shift to an alternative goal? In this chapter, we address these questions by developing and testing a model of how individuals regulate the allocation of effort between multiple goals over time. Understanding this may provide important insights into the dynamics of goal system functioning. We propose that the course of action that an individual will follow when striving toward multiple goals is guided jointly by the emotions that flow from ongoing goal pursuit and the proximity to goal attainment. In particular, we predict that both positive and negative goal-related

emotions can lead to persisting and shifting in goal pursuit, and that these seemingly opposing effects depend on the pattern of change in goal proximity.

Results from two studies, using longitudinal daily-diary (Study 1) and experimental (Study 2) methodologies, support the model and its predictions. Specifically, they demonstrate that when attaining a focal goal is remote, positive emotions lead to an increase in effort in that domain, by diverting resources from alternative goal strivings. In contrast, negative emotions in that case prompt individuals to disengage from further effort, and instead to shift effort to other goals. However and importantly, these relationships are reversed when goal attainment is nearby. Close to the goal, positive emotions lead to coasting, and promote a shift of effort to alternative goals. Negative emotions, on the other hand, trigger increases in goal effort, which entail a reduction of effort in pursuing other goals. Moreover, as predicted by the model, these effects are mediated by changes in expectancies of goal success.

Taken together, the findings demonstrate that people respond flexibly and adaptively to the ongoing challenge of simultaneously pursuing multiple goals by using emotions and goal proximity to regulate the flow of goal-directed effort between these goals over time. This provides a parsimonious account of the dynamics of multiple goal pursuit.

THE MULTIPLE GOAL PURSUIT MODEL

Our model of the dynamics of multiple goal pursuit and the predictions that follow from it are depicted in Figure 3.1. It distinguishes three ways in which individuals can target their effort in multiple-goal environments: (a) sustaining/increasing effort in the focal goal, (b) reducing effort in that goal domain

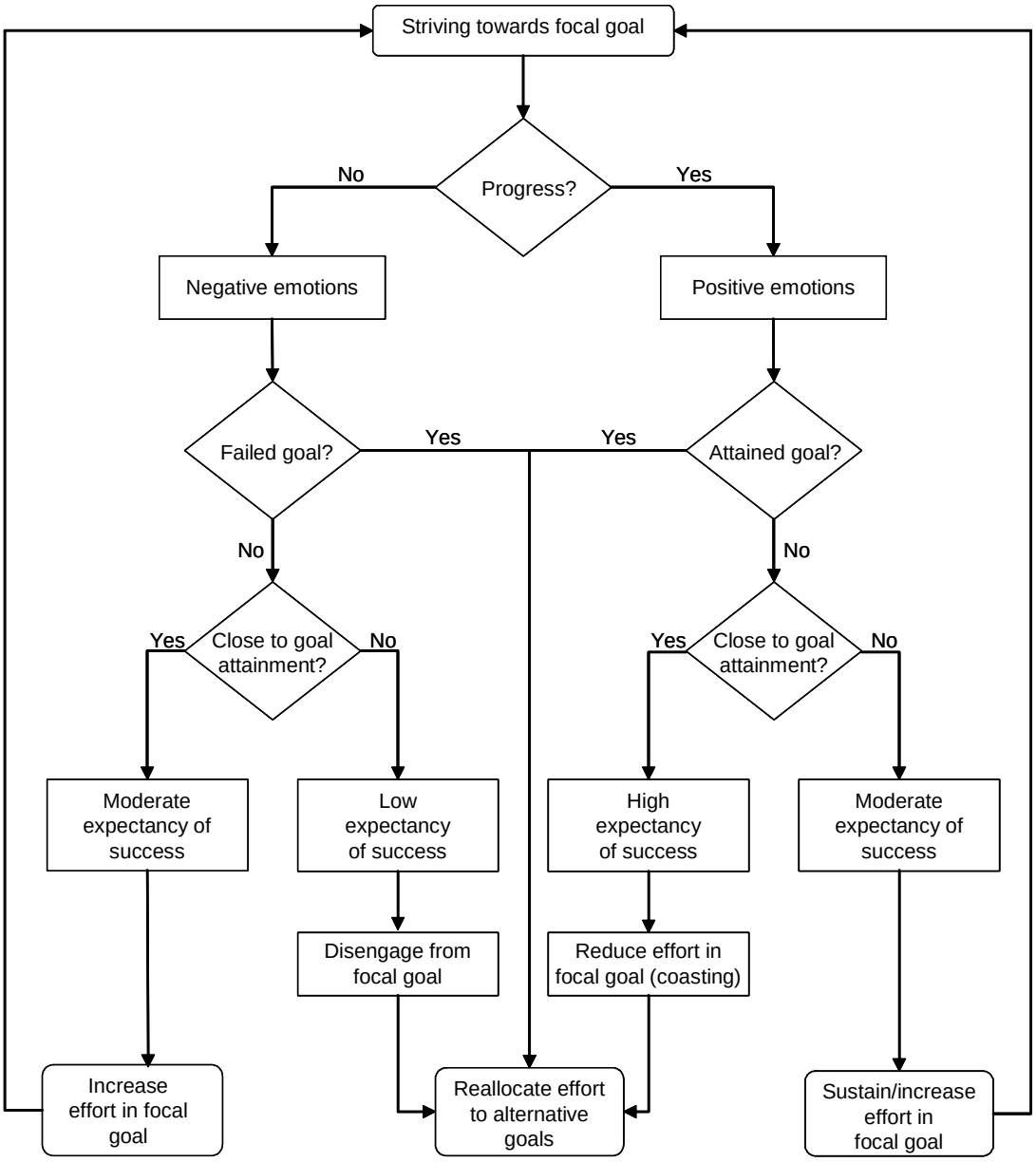
and reallocating effort to alternative goals, or (c) disengaging from the focal goal and shifting effort allocation toward other goals. The specific course of action that the individual will follow is expected to be contingent on the emotions stemming from goal pursuit and, critically, on the proximity to goal attainment. Further, we predict that these influences are driven by a pattern of change in expectancies about the likelihood of goal success. The following sections describe the components of the model in more detail.

Motivational Influences of Goal-Relevant Emotions

Emotion is integral to goal pursuit,[4] and much of goal-directed behavior is accompanied by positive and negative emotions (Bagozzi, Baumgartner, and Pieters 1998; Carver and Scheier 1990; Frijda, Kuipers, and ter Schure 1989). Simon (1967) already suggested that emotions are a central mechanism driving moment-to-moment reevaluation and reprioritization of one's goals in multiple-goal environments, and this is central in our research here. Positive goal-related emotions arise when individuals move toward or have succeeded in reaching a given goal. Negative goal-related emotions occur when they are moving away from a goal or have failed to attain it (see Figure 3.1). Because emotions provide a signal for the effectiveness of goal-directed behavior, they are likely to also play an important role in the selective investment of personal resources across multiple goals over time, but the issue is how.

[4] Throughout this chapter, we focus on emotions that occur in response to goal strivings, rather than on broad affective states (i.e., moods) that lack a specific referent and are thus not specific to goal pursuit (Clore, Schwarz, and Conway 1994).

Figure 3.1. Multiple goal pursuit model



Two opposing predictions concerning the motivational role of goal-related emotions on multiple goal pursuit, however, can be derived from the literature. One stream of research builds on the well-known hedonic principle of human motivation, which suggests that people want to approach pleasure and avoid pain (Bentham 1789/1948; Freud 1920/1950). Accordingly, it predicts that positive emotions stemming from goal pursuit should lead individuals to continue an ongoing activity or even to immerse themselves in it more deeply, and negative emotions to disengage from ongoing activities or goals (e.g., Cofer 1981; Fredrickson 2001; Herrald and Tomaka 2002). As a case in point, Ford (1987) concluded, in a literature review, that positive emotions (e.g., satisfaction, joy) evolved to encourage people to sustain effective behaviors in which they are making progress toward a valued goal that has not yet been achieved. Negative emotions (e.g., discouragement, downheartedness), on the other hand, evolved to encourage people to abandon ineffective behaviors and unrewarding persistence toward unattainable goals.

If this logic is extended to a multiple goal context, it would imply that positive emotions should call for greater investments of effort in the goal domain to which they are attached, by diverting resources from alternative goals. Negative emotions, on the other hand, would then lead individuals to disengage from additional effort to pursue the current goal, and instead to redirect the effort to valued alternative goals, in an attempt to minimize the unpleasant feelings stemming from failure in goal pursuit.

Although this account of the role of emotions in effort allocation across multiple goals seems plausible, a recently advanced second stream of research suggests that the opposite effect may occur as well. Carver and Scheier (1998; Carver 2003) have taken a very different stance based on evidence that positive emotions serve as a cue that progress toward a goal is unfolding at a faster and negative

emotions at a slower than expected rate (see also Hsee and Abelson 1991; Lawrence, Carver, and Scheier 2002). Building on this velocity hypothesis, they further hypothesized that, given multiple goals, positive emotions should always prompt individuals to coast or slow down in the goal domain to which the emotions pertain, so that the rate of progress returns to the criterion rate, freeing up personal resources that can then be channeled toward other goals. In contrast, negative emotions should prompt individuals to work harder (e.g., Cervone et al. 1994), in an attempt to reverse the insufficiency of progress in that goal domain, which entails a reduction of effort allocation to other goals (see also Simon 1967). However, as Carver (2004) recently pointed out, "the ideas just outlined are more than just a little speculative" (p. 33). Empirical research has yet to address these predictions.

These two contrasting predictions about the effects of positive and negative emotions on multiple goal pursuit that can be derived from the application of the hedonic principle of human motivation and Carver and Scheier's (1998) cybernetic control model to multiple-goal environments appear conflicting. The question thus remains how positive and negative emotions influence the selective allocation of effort between alternative goals over time. We discuss next how these opposing predictions can be reconciled.

The Role of Goal Proximity

We propose that whether positive and negative emotions ultimately cause one to step up, coast, give up the current goals, or take up pursuit of another goal is determined by goal proximity; that is, the size of the discrepancy between the present and the desired goal state (see Figure 3.1). The importance of distance to the goal, in general, has been emphasized early on in motivation research (Lewin 1938; Locke and Latham

1990). Indeed, goal proximity plays a major role in directing attention, motivation, and goal effort. Goal discrepancies, for instance, trigger in individuals attempts to reduce them by increasing goal-directed efforts (Carver and Scheier 1998). Nonetheless, when the magnitude of the discrepancies is seen as being too large, goal-directed effort may not take place at all, rather than being maximal in response to the high need for corrective action (Kernan and Lord 1988). This suggests, as shown in Figure 3.1, that the pattern of resource allocation among multiple goals is not only sensitive to the rate of goal progress, signaled by the valence of goal-related emotions (positive or negative), but also to the state of goal progress, indicated by goal proximity (distant or close).

In other words, we propose that experiencing positive and negative goal-related emotions when goal attainment is distant has diametrically opposed motivational implications relative to experiencing those same emotions when goal attainment is close. Specifically, we predict that individuals who experience positive emotions following success in goal pursuit are likely to increase their goal-directed efforts when they are far from reaching the goal, but instead to decrease such efforts when they are closer (see Figure 3.1, right route). That is, in situations where individuals are initially doing well but the effort required to reach the goal is still large, positive emotions lead individuals to believe that the goal is attainable if they maintain or increase their goal-directed effort. However, as proximity to the goal increases we expect that positive emotions take on a different tone. Because at this point the amount of effort required for goal completion is relatively low, positive emotions may lead individuals to coast in that domain, by rendering them complacent. Individuals may feel as if they have already attained the goal. Given that individuals have multiple goals, such tendency to coast may, in turn, promote a shift of effort to

other goals.

We further predict that individuals who experience negative emotions due to failure in goal pursuit are likely to decrease their subsequent goal-directed effort when they are far from reaching the goal, but to increase it when they get closer to the goal (see Figure 3.1, left route). Individuals experiencing such negative emotions in the early stages of goal pursuit, where the amount of additional effort required for goal attainment is high, are likely to perceive that the goal is lost and that further effort is pointless. As a result, they should disengage from the focal goal and instead shift their efforts toward valued alternative goals in place of the current one. In contrast, when the goal is close, negative emotions should have the opposite effect, leading to increases in effort. At this point, individuals are likely to perceive that further effort can improve progress or even lead to goal attainment. Therefore, when individuals fall behind but the goal is not seen as lost, negative emotions will enhance goal-directed efforts, by signaling that they are not putting sufficient effort toward the goal.

In sum, the proposed model of multiple goal pursuit specifies that whether positive and negative goal-related emotions will promote a concentration of effort on the focal goal or its reallocation to alternative goals is a changing function of moment-to-moment goal proximity. We reason that these relationships operate within a feedback process in which individuals continuously revise and update the flow of goal-directed effort in response to the emotional and motivational outcomes of prior goal-directed behavior and the current goal proximity (see feedback loops in Figure 3.1). In this way, the proposed model builds a bridge between different accounts of the role of emotions in multiple goal pursuit that can be derived from the traditional hedonic principle of human motivation and Carver and Scheier's (1998) more recent cybernetic control model and shows how these are complementary rather than

mutually exclusive.

Formation of Goal Expectancies

Thus far, we examined how goal-related emotions and goal proximity influence the dynamics of multiple goal pursuit, but we did not detail the underlying process. As illustrated in Figure 3.1, we expect that these effects depend on the pattern of change in individuals' expectancies about the degree to which the focal goal is attainable. The importance of goal expectancy in accounting for individuals' level of motivation to work hard is central in, for instance, expectancy-value theories of achievement motivation (Atkinson 1964; Atkinson and Birch 1970), work motivation (Vroom 1964), and in goal setting theory (Locke and Latham 1990). Along these lines, Carver and Scheier (1998) speculated that positive emotions might be linked to favorable expectancies and negative emotions to unfavorable expectancies, which in turn should shape subsequent goal pursuit. This is supported by findings that positive and negative affect are positively and negatively related with perceptions of expectancy, respectively (e.g., Erez and Isen 2002; Herrald and Tomaka 2002), and that positive, as opposed to negative, future expectancies are associated with higher levels of effort (e.g., Carver, Blaney, and Scheier 1979; Van Eerde and Thierry 1996).

Importantly, Carver and Scheier (1998) raised the possibility that factors other than emotions may also influence the formation of goal expectancies, and we believe goal proximity to be such a factor. That is, we hypothesize that individuals will consider both their goal-related emotions and how close they are to goal attainment when forming expectancies about the likelihood of reaching a given goal. The resulting expectancy should, in turn, influence subsequent goal-directed efforts, as depicted in Figure 3.1. Specifically, when individuals are far from goal attainment

they will be particularly sensitive to current goal progress, signaled by the valence of their goal-related emotions, in assessing their expectancy of future success. Hence, positive emotions will lead individuals to believe that because they are doing well they are likely to succeed, even though considerable effort is still required to attain the goal. As a result, individuals should engage in effortful goal-directed behavior. In contrast, individuals who experience negative emotions will feel that, because they are doing poorly and perhaps even moving away from an already distant goal, the likelihood of goal attainment is low. This low expectancy might, in turn, lead them to disengage from the goal and to reallocate their efforts toward valued alternative goals.

When goal attainment is near, individuals will have a generally high expectancy of success based on what they have already achieved. In this context, positive emotions will lead individuals to believe that goal attainment is certain. This very high expectancy may lead to coasting, by rendering individuals complacent, and in turn to a shift of effort to other goals. In contrast, experiencing negative emotions will signal that, although the goal is within reach, additional effort is still required. This moderate level of expectancy should, in turn, lead individuals to increase their effort toward the goal.

As a consequence, whereas prior research has generally emphasized a positive linear link between goal expectancy and effort (Locke and Latham 1990; Mitchell 1974; Van Eerde and Thierry 1996), our model predicts a curvilinear relationship between goal expectancy and effort toward the focal goal, with goal effort lowest at low and high levels of goal expectancy, and highest at moderate levels of goal expectancy. This prediction is consistent with Atkinson's (1957) motivation theory which posits an inverse-U function between probability of success and performance.

Summary

The proposed account of multiple goal pursuit specifies how individuals dynamically regulate the allocation of effort among multiple goals over time. According to the model, multiple goal pursuit is jointly determined by the valence of goal-related emotions and distance to the goal, and proximally driven by a pattern of change in goal expectancy over time. We now report two studies with complementary methodologies to test the model's predictions. Study 1 used a longitudinal daily-diary approach; Study 2 was a controlled laboratory experiment.

STUDY 1

Study 1 tests our predictions about the dynamics of multiple goal pursuit using a daily-diary study design. This design allows us to examine how goal-related emotions and goal proximity influence participants' effort allocation in pursuing two valued personal goals on a day-to-day basis throughout a 21-day period. In this study, we targeted the pursuit of a weight-loss goal and another unrelated (but also important) personal goal identified individually by each participant. We chose the domain of weight-loss as a focal goal because it is an everyday goal of importance for most people. For example, as many as 15 to 35% of Americans are trying to lose weight on any given day (Horm and Anderson 1993).

Method

Participants and Design

Participants were recruited to participate in a study of weight-loss and daily life. The study was restricted to women who wanted to decrease their bodyweight over a period

of 21 days. Compared to men, women are about twice as likely to report a desire to lose weight (Horm and Anderson 1993). To ensure that weight-loss would be largely a function of personal effort, women who wanted to lose weight via dieting and exercising (i.e., without professional help or weight-loss medication) were selected. The starting date for the study was set for the second week of January, which is a typical weight-loss period as New Year's resolutions predominantly address plans to lose weight (Norcross, Ratzin, and Payne 1989). A total of 82 female undergraduate students (mean age = 19.04 years) who met the criteria participated in return for course credit. Of the 82 participants, 62 participants were randomly assigned to the diary condition, and 20 participants were randomly assigned to the control (no-diary) condition, described in more detail later.

Procedure

Upon arrival for the first session, participants were seated at a table in a private room. After reading and signing an informed consent form, each participant attended a 15-20 minutes orientation session individually. At this orientation session, participants were first weighed, and then completed a questionnaire in which they indicated what their ideal body weight was, and how much weight they wanted to lose in the next three weeks. Participants were also asked to identify another important personal goal that they wanted to accomplish over the next three weeks; that is, a goal that they expected to be on their minds during the three-week course of this study. All participants were able to identify another personal goal. Of the 82 participants, 71 identified a study goal (e.g., increase the time devoted to study; keep up with homework), 8 a financial goal (e.g., work more hours in a paid job; increase monetary savings; pay off debts), and 3 other goals (e.g., stop biting nails; devote more time to helping others). To

check whether the two personal goals were independent of each other and important, participants were then asked to rate the degree to which this other goal was related to their weight-loss goal, and how important it was for them to attain each of the personal goals (1 = not at all, 7 = very much).

Participants assigned to the diary condition agreed to keep a daily record of their behavior for a total of 21 days, and were then introduced to the daily-diary form and the procedures for completing it. Specifically, participants were instructed to begin filling out the diaries the following day, complete the diaries before going to bed, and return each week's set of diaries on completion. Diary forms were distributed in 7-day packets so that each packet would have to be completed and handed in when the next weekly packet was picked up, for a total of three consecutive weeks (21 days). All participants were assured of the confidentiality and anonymity of their responses. At the end of the three-week period, participants attended a follow-up session, where they were asked to indicate the degree to which each of their personal goals was achieved: "To what extent were you successful in achieving this goal?" (1 = not at all, 7 = completely). Finally, participants were weighed again and debriefed.

Participants in the control condition did not keep a daily diary. Their task was to attempt to attain their weight-loss goal and their other goal, but without keeping a record of their daily behavior. Hence, these participants skipped the introduction to the daily-diary forms and were directly scheduled for the follow-up session at the end of the three-week period. This control group provided an undistorted baseline against which the attainment of the two goals in the diary group could be compared. This allows us to examine whether the behavioral monitoring associated with keeping a daily diary induced reactive effects or not (Affleck et al. 1999). The absence of any differences in goal attainment between the experimental and control groups would

suggest that the findings are not attributable to reactivity to the diary condition, and generalize to individuals who do not monitor their behavior so exactingly.

Diary Measures

During the study, participants answered daily several questions about each of the personal goals that they had defined at the orientation session. For their weight-loss goal, participants were first asked to keep a record of the type and amount of food and beverage intake during meals and in-between meals (snacks), as well as of their physical activity (in minutes). They were then asked to assess how much effort they exerted in pursuing their weight-loss goal each day on three seven-point items anchored at "not at all/very much". The items were: "How much effort have you made today toward achieving this goal?"; "Today, to what extent were you self-disciplined in pursuing this goal?"; and "How hard did you work today toward this goal?" The average Cronbach's alpha across the three weeks was .87.[5]

Participants were then asked to assess the extent to which they experienced a number of emotions regarding their level of effort exerted to lose weight during that day (Bagozzi et al. 1998). They rated to what extent they experienced positive emotions (proud with myself, good about myself, happy with myself, and satisfied with myself) and negative emotions (guilty, ashamed with myself, angry at myself, and regretful). Ratings were made on seven-point scales (1 = not at all, 7 = very much). In the present study, the average reliability for both scales across the three

[5] As a check, a follow-up content analysis of participants' eating behavior was conducted by two independent coders, blind to the hypotheses, who subjectively rated how much effort each participant actively made toward losing weight on each day, along a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). Inter-rater reliability was high, $r = .81$, $p < .001$. Subsequent analyses showed a high correlation between coder ratings and participants' own assessment of their goal effort ($r = .67$, $p < .001$). More importantly, the pattern of results remained unchanged when the analyses were performed using these scores, as expected.

weeks was high (both α's = .96).[6]

Next, participants indicated (1 = none, 7 = a lot) how much progress they made toward achieving their weight-loss goal on each day (i.e., goal progress). Goal proximity was measured each day with two seven-point items: "In your opinion, how close are you to attaining your weight-loss goal?" (1 = not at all, 7 = very much) and "How large is the distance between your current weight and target weight?" (1 = small, 7 = large [reversed scored]). The average correlation between these two items across the three weeks was high, $r = .76$ ($p < .001$). Finally, participants were asked to rate how much effort they exerted in pursuing their other personal goal each day (α = .95), on the same scale used for weight loss.

Diary-Data Analyses

To test whether goal proximity moderates the impact of goal-related emotions on effort allocation across multiple goals in the hypothesized directions, we used the SAS Proc Mixed procedure for multilevel-regression models (SAS Institute 1989). This approach exploits the hierarchically nested design of our dataset, in which a lower unit (days) is nested within a higher-level unit (persons) and, thus, allows the simultaneous analysis of within- and between-person variation (Kenny, Kashy, and Bolger 1998). In line with previous diary research (Affleck et al. 1999; Mohr et al. 2001), we included a first-order autoregressive error structure in our analyses, because daily observations tend to be associated with auto-correlated residuals that may bias standard errors and significance levels.

[6] To test the discriminant validity of the positive and negative emotions, we conducted a confirmatory factor analysis (CFA). We compared a measurement model with the positive and negative items loading on separate factors against an alternative model with all items loading on a single factor. A chi-square difference test (Kline 1998) demonstrated that the two-factor solution was superior ($\chi^2_{\text{difference}}$ (1) = 2424.38, $p < .001$), indicating discriminant validity between the measures.

In the first stage of analysis, we estimated a multilevel-regression model separately on the level of effort in pursuing the weight-loss goal (Ewl_{it}) and the other personal goal (Eog_{it}) on a given day with the following predictors: (1) the positive emotions stemming from weight-loss behavior on the previous day ($PEwl_{it-1}$), (2) the negative emotions stemming from weight-loss behavior on the previous day ($NEwl_{it-1}$), (3) the proximity to attaining the weight-loss goal ($GPwl_{it-1}$), (4) the interaction between positive emotions and goal proximity, (5) the interaction between negative emotions and goal proximity, (6) the average level of effort (b_{0i} and c_{0i}, which randomly varies across individuals), (7) the level of effort in pursuing that goal on the previous day to control for possible carryover effects from one day to the next day (Ewl_{it-1}; Eog_{it-1}), (8) an error term that reflects each person's daily deviation from his or her own mean level of effort (weight-loss: $e_{it1;}$ other goal: e_{it2}), and (9) an error term (weight-loss: $u_{i1;}$ other goal: u_{i2}) that reflects how much each person's average deviates from the overall average.

Following recommendations by Bryk and Raudenbush (1992), all the predictor variables are centered around each person's mean for each variable. This allows us to decompose responses at a daily level into two components, one, the average level, and two, changes on each day from the average level. For convenience, it is appropriate to interpret day-level coefficients in terms of the effects of a person being high or low on a given day relative to his or her own mean for that variable across days. We estimated the following equations predicting the level of effort for person *i* on day *t* (b_1 to b_6 and c_1 to c_6 represent fixed effects; i.e., the average within-person slope across all individuals):

$$Ewl_{it} = b_{0i} + b_1\, PEwl_{it-1} + b_2\, NEwl_{it-1} + b_3\, GPwl_{it-1} + b_4\, (PEwl_{it-1} \times GPwl_{it-1}) + b_5\, (NEwl_{it-1} \times GPwl_{it-1}) + b_6\, Ewl_{it-1} + u_{i1} + e_{it1} \quad (1)$$

$$\text{Eog}_{it} = c_{0i} + c_1\,\text{PEwl}_{it-1} + c_2\,\text{NEwl}_{it-1} + c_3\,\text{GPwl}_{it-1} + c_4\,(\text{PEwl}_{it-1} \times \text{GPwl}_{it-1}) + c_5\,(\text{NEwl}_{it-1} \times \text{GPwl}_{it-1}) + c_6\,\text{Eog}_{it-1} + u_{i2} + e_{it2} \quad (2)$$

In brief, the multilevel model defined by these equations investigates whether and how effort allocation across multiple goals is a joint function of goal-related emotions and goal proximity. Our predictions about the changing role of positive and negative emotions in multiple goal pursuit depending on goal proximity would be supported if the following interaction variables in the multilevel model would be statistically significant for both personal goals: Positive emotions × Goal proximity (b_5 and c_5), and Negative emotions × Goal proximity (b_6 and c_6). To rule out the possibility that daily goal pursuit varied significantly as a function of individual traits, and how they impact the underlying processes, we included three measures that have been shown to impact individuals' effort in dieting: the restraint scale (α = .82; Herman and Polivy 1980), brief self-control scale (α = .87; Tangney, Baumeister, and Boone 2004), and the state self-esteem subscales ($\alpha_{\text{performance}}$ = .82; $\alpha_{\text{appearence}}$ = .86; α_{social} = .64; Heatherton and Polivy 1991). In addition, to control for goal difficulty effects (Locke and Latham 1990) in the weight-loss goal, we included a measure of goal difficulty, assessed as the amount of weight that participants' wanted to lose as a percentage of their initial weight. Support for our predictions over and above these individual traits and goal difficulty would attest to the robustness of the findings.

Results

Descriptive Statistics

Participants' mean initial weight was 146.82 lb (*SD* = 18.28; range: 115.08-192.68

lb). They ranged from 1.68% to 31.69% above the bodyweight they indicated as being ideal (M = 10.94%, SD = 5.72) and wanted to lose between 1.98 lb and 22.05 lb in the three weeks (M = 7.58 lb, SD = 3.23). Overall, participants indicated their weight-loss goal to be unrelated to the other personal goal that they indicated (M = 2.37, SD = 1.41), which is desirable. Participants also reported that both personal goals were important for them to attain, with weight-loss being the dominant goal ($M_{Weight\text{-}loss}$ = 6.04, SD = .94 vs. $M_{Other\ goal}$ = 4.98, SD = .89), $F(1, 81) = 115.57$, $p < .001$. After the three weeks, participants had lost on average 2.32 lb (SD = 3.05), ranging from an 8.82 lb loss to a 3.97 lb gain. Similarly, participants reported being moderately successful in attaining their two personal goals at the end of the three weeks ($M_{Weight\text{-}loss}$ = 3.05, SD = 1.92; $M_{Other\ goal}$ = 4.66, SD = 1.80). Importantly, there were no significant differences between the diary group and the control group on any of the measures reported above, all Fs < 1. This suggests that the behavioral monitoring associated with keeping a daily diary did not induce reactive effects, which is desirable.

Influence of Goal Effort and Goal Progress on Goal-Related Emotions

We predicted that positive goal-related emotions arise in response to movement toward the focal goal, and negative goal-related emotions to movement away from the focal goal. Thus, as depicted in Figure 3.1, high effort in goal pursuit should be accompanied by a perception that progress is being made toward the focal goal, which in turn should lead to positive goal-related emotions. In contrast, low effort should be accompanied by a perception of lack of progress toward the focal goal, which in turn should elicit negative goal-related emotions. In support of this, higher levels of effort in pursuing the weight-loss goal indeed elicited more positive emotions, b = .797, t =

51.61, $p < .001$, and less negative emotions, $b = -.639$, $t = -30.98$, $p < .001$, for each day. Moreover, following the mediation guidelines by Baron and Kenny (1986), the link between goal effort and emotions was mediated by goal progress, although not completely. That is, goal effort was found to influence not only the type of emotions, as described above, but also goal progress, $b = .725$, $t = 25.30$, $p < .001$. When goal progress was added to the regression analyses as a predictor of goal-related emotions, its parameter was significant for both positive, $b = .087$, $t = 5.92$, $p < .001$, and negative emotions, $b = -.102$, $t = -5.19$, $p < .001$, in the expected directions. In this latter regression, the parameter estimates for goal effort, although still significant, were significantly reduced for both positive, $b = .734$, $t = 39.42$, $p < .001$, and negative emotions, $b = -.564$, $t = -22.64$, $p < .001$, as confirmed by Sobel (1982) tests of mediation ($Z_{\text{Positive emotions}} = 5.76$, $p < .001$; $Z_{\text{Negative emotions}} = 5.08$, $p < .001$). These results remained unchanged after controlling for goal difficulty. Together, these findings indicate that, as expected, positive and negative goal-related emotions emerge as a result of the level of effort and progress in pursuing the focal goal. If and how these emotions influence future goal striving, as a function of goal proximity, is examined next.

Multiple Goal Pursuit and the Motivational Effects of Emotions and Goal Proximity

The results of the regression analyses are summarized in Table 3.1. Importantly and as we hypothesized, goal proximity indeed moderated the influence of goal-related emotions on effort allocation across multiple goals. Specifically, we found significant interactions between prior day's positive emotions, following high effort in losing weight, and goal proximity to the weight-loss goal on next day's effort in pursuing

both personal goals. We also found significant interactions between prior day's negative emotions, following low effort in losing weight, and goal proximity to the weight-loss goal, on next day's effort in pursuing both personal goals. Note that only the interaction effects were statistically significant, but none of the main effects of the positive and negative emotions or of goal proximity, which provides strong support for the proposed mechanism.

Figure 3.2 displays these significant interaction effects graphically. In the figure, we plotted the predicted values of effort in pursuing the weight-loss goal and the other goal for participants scoring 1 *SD* above and below the mean of positive emotions, negative emotions, and goal proximity, employing common regression techniques (Aiken and West 1991). Clearly, when participants were far from attaining their weight-loss goal, positive emotions stemming from high effort in weight-loss led to increased subsequent effort in pursuing the weight-loss goal, $b = .275$, $t = 4.14$, $p < .001$, and to decreased subsequent effort in pursuing the other goal, $b = -.270$, $t = -3.11$, $p < .01$, as predicted by our model. Conversely, when participants were close to attaining their weight-loss goal, positive emotions were significantly related to decreased subsequent effort in pursuing the weight-loss goal, $b = -.341$, $t = -5.15$, $p < .001$, and to increased subsequent effort in pursuing the other goal, $b = .188$, $t = 2.17$, $p < .04$.

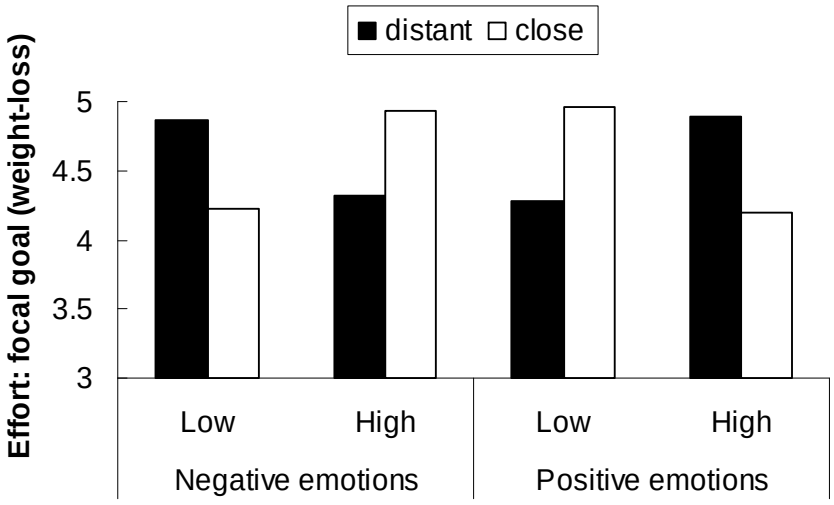
TABLE 3.1. Study 1: Predicting Daily Effort Allocation

Predictors	Effort: focal goal (weight-loss)		Effort: other goal	
	b	*SE*	*b*	*SE*
Intercept	4.584***	.102	3.829***	.123
Focal goal (weight-loss):				
Prior day's positive emotions	-.033	.053	-.041	.061
Prior day's negative emotions	.036	.040	-.003	.061
Prior day's goal proximity	-.004	.023	.012	.035
Prior day's positive emotions × Prior day's goal proximity	-.252***	.033	.187***	.050
Prior day's negative emotions × Prior day's goal proximity	.227***	.034	-.164**	.053
Prior day's effort	-.015	.043		
Other goal:				
Prior day's effort			-.074**	.028

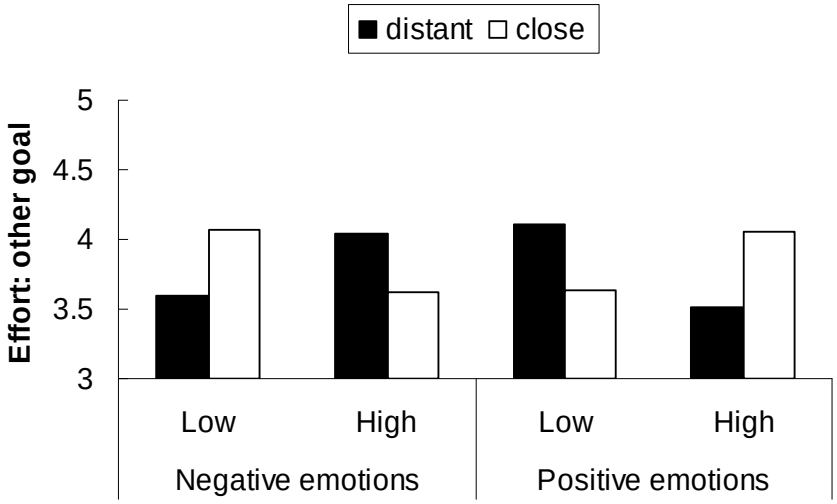
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 3.2. Today's effort in pursuing the weight-loss goal (A) and the other personal goal (B) as a function of prior day's positive and negative emotions over effort to lose weight and prior day's goal proximity to the weight-loss goal.

A



B



As predicted, these relationships were reversed when participants had negative emotions following low effort in weight-loss. When participants were far from attaining their weight-loss goal, negative emotions were significantly related to decreased subsequent effort in pursuing that goal, $b = -.242$, $t = -4.19$, $p < .001$, and to increased subsequent effort in pursuing the other goal, $b = .198$, $t = 2.29$, $p < .03$. When participants were close to their weight-loss goal, negative emotions were significantly related to increased subsequent effort in pursuing the weight-loss goal, $b = .313$, $t = 5.29$, $p < .001$, and to decreased subsequent effort in pursuing the other personal goal, $b = -.203$, $t = -2.26$, $p < .03$.

Controlling for Individual Differences and Goal Difficulty

For control purposes, we also examined whether the average level of effort in pursuing each goal varied systematically as a function of individuals' chronic levels of dietary restraint, self-control, and self-esteem, and of goal difficulty. The predicted Positive emotions × Goal proximity (weight-loss: $b = -.253$, $t = -7.73$, $p < .001$; other goal: $b = .187$, $t = 3.74$, $p < .001$), and Negative emotions × Goal proximity (weight-loss: $b = .224$, $t = 6.50$, $p < .001$; other goal: $b = -.163$, $t = -3.09$, $p < .001$) interactions remained significant after controlling for these individual traits and goal difficulty, which underlines the robustness of the findings.

Discussion

We believe these findings shed new light on the dynamics and determinants of multiple goal pursuit. The daily-level analyses demonstrated that goal-related emotions and goal proximity jointly are critical factors influencing the pattern of resource allocation among multiple goals. We found that positive emotions led to

increases in subsequent effort in the goal domain to which they are attached, but only when individuals were distant from attaining the goal, by diverting resources from alternative goals. Instead, positive emotions led to decreases in such efforts when goal attainment was near, by triggering a shift of effort to the pursuit of other valued goals. As predicted by the model, the opposite pattern of results was found for negative emotions following failure in goal pursuit. There, negative emotions were associated with a decrease in subsequent goal-directed behavior when goal attainment was far, which in turn promoted a shift of effort toward valued alternative goals in place of this one. However, as proximity to the goal increased, negative emotions triggered instead a rise in effort, which involved a reduction of effort in pursuing other goals. These results reflect the operation of feedback processes in which individuals adjust their day-to-day goal effort across goals in response to the emotional and motivational outcomes of prior goal-directed behavior, and thus the flexible and dynamic way in which individuals pursue multiple goals over time. Moreover, these dynamics were independent of goal difficulty and individual characteristics that are related to persistence in goal striving.

STUDY 2

The purpose of this study was to provide additional evidence on the proposed process underlying multiple goal pursuit, and to replicate the results of Study 1 in a controlled experimental setting. In particular, Study 2 tested whether the phenomena observed in the first study are caused by changes in individuals' expectancy of success in reaching the focal goal. Also, it used unobtrusive, behavioral measures of effort allocation.

Method

Participants and Design

A total of 165 female undergraduate students (mean age = 21.25 years) took part in the experiment in return for $8. Of these, 120 participants were randomly assigned to one of eight experimental conditions in a 2 (goal-related emotions: positive vs. negative) × 2 (goal proximity: distant vs. close) × 2 (goal relatedness: related vs. unrelated) between-subjects factorial design with subsequent effort in related and unrelated goals as the dependent variables (n = 15 per cell). The remaining 45 participants were randomly assigned to one of three control conditions, in which they had to perform only one of three tasks, explained in detail later: the lexical-decision task, the related-goal task, and the unrelated-goal task. A schematic depiction of the experimental procedure is shown in Table 3.2 and detailed below.

Procedure

Phase I: Activation of Dieting Goals. Upon arrival to the laboratory, participants were directed to a waiting room and asked to wait for a few minutes. Following the procedure used by Fishbach, Friedman, and Kruglanski (2003; Study 5) to activate dieting goals, the waiting room contained a variety of magazines and flyers about exercising and dieting scattered around the tables, and nutrition- and dieting-related posters on the walls. The experimenter pointed at the posters and flyers, and told participants not to pay attention to them under the pretence that these materials were there for use at a later study. After the waiting time, participants were brought into an individual cubicle with a personal computer and informed that they would be taking part in several unrelated studies during the 1-hour session. They were also told

that they would receive all instructions via a computer. After obtaining participants' informed consent, the experimenter started the computer program and left.

The first study (in fact, the manipulation check for the effectiveness of the activation of dieting goals) was introduced as a lexical-decision task on the computer (adapted from Fishbach et al. 2003; Study 5). Participants were told that they would first perform a word recognition task, the goal of which was to find out how fast people discriminate between words and non-words. Participants were initially given six practice trials and then went on to complete 12 experimental trials presented in random order. In six cases, the target string was an existing word, and in the remaining six cases, it was a sequence of random letters (e.g., hibbt). Of the six existing target words, three words were associated with dieting (slim, diet, fat) and three were unrelated to dieting (warm, desk, day). Participants in the first control group skipped the activation of the dieting goal and their sole task was to do the lexical-decision part of the experiment. If the dieting goals were successfully activated by our manipulation, response times for the dieting-related words should be faster in the experimental group as compared to the control group.

Phase II: Manipulation of Goal-Related Emotions. After the participants in the experimental conditions completed the lexical-decision task, the experimenter thanked them and informed them that the second study, an investigation on people's taste perception of current products in the marketplace, would now begin. Participants were presented with a 10 oz heaping bowl of potato chips and a glass of water. Along with the bowl of chips, participants were instructed to taste the chips, to rate them on five taste dimensions listed in the computer (e.g., crunchy, salty), and to indicate their purchase intention. They were told to have as many chips as they felt necessary to achieve accurate ratings.

Table 3.2. Study 2: Schematic Experimental Structure

	Experimental Task and Stimuli	Objectives	Measures
Phase I	Exercise- and diet-related posters on waiting room	Activation of dieting goals	Lexical-decision task as manipulation check for accessibility of diet goal (also for first control group)
Phase II	Potato chips taste-rating task + Read consumer reviews: *Positive-emotion induction*: other people generally eat large amounts of chips or *Negative-emotion induction:* other people generally eat a small amount of chips	Manipulation of goal-related emotions	
Phase III	Enter information to compute 'Personalized Health Index' (PHI) + Feedback on PHI score: 2 points (*close-goal condition*) or 11 points (*distant-goal condition*) above optimal PHI	Manipulation of goal proximity	Measurement of goal expectancy
Phase IV	*Related-goal condition*: taste-rating task for weight-loss drink (apple cider vinegar) or *Unrelated-goal condition*: unsolvable puzzles	Measurement of subsequent goal-directed effort in related and unrelated goals	*Related-goal task*: quantity of apple cider vinegar drank (also for second control group) or *Unrelated-goal task*: total time spent trying to solve the puzzles (also for third control group)
Phase V	Post-experimental questionnaire	Manipulation checks	Manipulation checks + Individual differences
Phase VI		Debriefing	

To increase the credibility of the cover story, the importance of accurate ratings was emphasized repeatedly. Following prior research (e.g., Herman and Mack 1975), participants were informed that they would be given 10 minutes to complete the task and that, after the chips had been tasted and rated, they could help themselves to as many chips as they wished because the lab had "tons of them," but they were not to change their initial taste ratings. The questionnaire was short enough so that it could be completed well within the 10 minutes, leaving participants with ample time to eat additional chips. After the 10-minute tasting period, the bowl of chips was removed and weighed to determine the amount (in oz) of chips consumed.

Once the tasting part was completed, participants were immediately asked to carefully read on the computer screen five reviews about the chips written by other consumers (in fact, the emotion manipulation) and to answer additional questions about the chips. The stated purpose for reading this information was that the researchers were interested in learning how consumer-reviews influence people's judgments. Emotions were manipulated by varying, in the second and fourth consumer reviews, the reference value against which participants could compare their efforts in self-regulating the amount of chips eaten during the tasting task. In the positive-emotion condition, participants read reviews that construed a low reference point; that is, the overall position in these reviews was that individuals are, in general, unable to control themselves and end up eating large amounts of chips. This, in turn, should lead participants to positively appraise their own behavior regarding the amount of chips eaten. The reviews that evoked positive emotions read: "Delicious chips! But I find that, like most people, I always eat way too many! I can never control myself. As soon as I open a pack, I always keep eating more and more until the last crumb. Oops!" and "These chips definitely taste good...very good indeed. It's

tough to open one of the bags without finishing the whole thing. I can eat an entire bag (the large bag, not that itty bitty snack pack) in about 8 minutes. I always get out of control whenever I see these chips."

In contrast, the negative-emotion condition focused participants on a high reference point; that is, the reviews implied that, in general, individuals are able to control themselves and only eat a small amount of chips. This, in turn, should lead participants to negatively appraise their own behavior regarding the amount of chips eaten. The reviews read: "Delicious chips! However, I seldom eat them (I can control myself especially with such fat snacks). As soon as I open a bag of chips, I start telling myself: 'Two chips are more than enough.' And I pretty much stay away from them." and "These chips definitely taste good...very good indeed. However, as much as I love the flavor of chips, I have full control and do not eat this stuff at all." The three remaining neutral reviews were identical across conditions (e.g., "Good texture and real crispness. The bags aren't half empty and the pricing is great for the quality of the chips!"). On the basis of these reviews, and consistent with the cover story, participants were then asked to indicate their purchase intention again.

Phase III: Manipulation of Goal Proximity. Participants were then asked to participate in a third, ostensibly unrelated study on body health. They were told that the focus of the study was to provide some preliminary data that would help the researchers learn more about body health among university students. Participants were then informed that a team of researchers from a prestigious medical school had recently developed a new measure of body health, the Personalized Health Index (PHI). In reality, the PHI was designed for the sole purpose of manipulating goal proximity in this experiment. To increase the credibility of the cover story, participants were told "the PHI indicates body health after controlling for a variety of

different individual characteristics, including age, gender, height, weight, bone structure, and muscle mass. It has been shown to be more accurate and reliable than other measures, such as the Body Mass Index (BMI), because it takes into account the fact that you may be heavy but healthy."

Participants were then instructed to enter on the computer the required personal information so that their individual PHI could be computed. This included information on their age, gender, weight, height, number of exercise hours per week, and measures around the waist, shoulders, hips and thighs. To ensure the accuracy of the data and to increase the realism, a tape measure and a scale were made available for each participant to use in isolation. After entering the relevant data, the following information was displayed on the computer screen: (a) current PHI score, (b) optimal PHI score, and (c) the time, on average, necessary to achieve the optimal PHI score. The optimal PHI score (114 points) was identical for all participants. However, depending on the type of experimental condition, their current PHI score was either 2 points above (close-goal condition) or 11 points above (distant-goal condition) their optimal PHI score. Also, in the close-goal condition, participants were informed that, on average, an excess of 2 points could be eliminated within 1 or 2 weeks of healthy eating and exercise. In the distant-goal condition, participants read instead that, on average, an excess of 11 points could be eliminated within 8 or 9 weeks. For control purposes, participants were then asked to indicate whether it was important for them to attain their optimal PHI score (1 = not at all, 7 = very much).

Next, expectancy of success toward the focal goal of losing weight was measured with four 7-point items (α = .97): "What is the probability that you will arrive at your optimal PHI in the recommended time?" (1 = not at all probable; 7 = highly probable); "How confident are you that you will achieve your optimal PHI

score within the recommended time?" (1 = not at all; 7 = very much); "Do you expect to succeed in reaching the PHI of 114 within the recommended time?" (1 = not at all; 7 = very much); and "Are you optimistic about attaining your optimal PHI score within the recommended time?" (1 = not at all optimistic; 7 = very optimistic).

Phase IV: Measurement of Subsequent Goal Effort. Finally and crucially, to examine effort allocation across different goals, participants performed either a task related to the focal goal (dieting) or an unrelated-goal task, representing a distinct goal domain. In the related-goal condition, participants were told that the 15 minutes necessary to allow the sensory memory of the food (chips) to fade were over and that a second taste perception task could now start. Participants were then presented with a tray with five 5-ounce paper cups filled with an aversive drink (Apple Cider Vinegar mixed with water) and a glass of water. Apple cider vinegar is a drink sometimes used as a weight-loss agent, but it has quite a sour and unpleasant taste. Participants were informed that the drink is very effective in burning body fat and that the more they drink, the more weight they can lose. Finally, participants were asked to taste and rate the drink following a similar procedure as the one used in the first tasting task. Although one may desire to consume a weight-loss drink, the unpleasant taste of the apple cider vinegar is a great disincentive, and so participants must exert effort to drink it. The dependent variable was measured by recording how many ounces of the aversive drink participants could make themselves consume. There was also an additional control group. Participants in this second group performed only the drink tasting task to provide an undistorted baseline against which the amount of drink consumed in the experimental conditions could be compared.

In the unrelated-goal condition, participants were given two unsolvable tracing

puzzles[7] (see Table 3.2), in what they believed was another, ostensibly unrelated study investigating people's creative ability. This task (adapted from Baumeister et al. 1998) has been widely used to measure effort, operationalized as persistence in face of frustration. The problem-solving task requires participants to trace over all the lines of two (unsolvable) geometric figures without retracing the same line twice and without lifting the pen from the paper, as many times as they wish. Participants were given a (solvable) practice puzzle first, and then received the two unsolvable puzzles to work on. Unbeknownst to them, the length of time they spent working on the puzzles before giving up was timed. There was also a control condition. For participants in this third control group, the only task was to work on the puzzles. Hence, this control condition provided an undistorted baseline against which the persistence in working on the puzzles in the experimental conditions could be compared.

Phase V: Post-Experimental Questionnaire. At the end of the experiment, participants completed a questionnaire that included a set of manipulation checks (on scales ranging from 1 (not at all) to 7 (very much)) and three individual difference scales.[8]

First, the manipulation checks for positive (α = .89) and negative emotions (α = .93) associated with the level of effort exerted toward the amount of chips eaten were assessed using the same scales as in Study 1. Perceived level of effort associated with the amount of chips eaten was then measured by three items (α = .86): "Did you have to restrain yourself from eating the chips?"; "To what extent were you self-disciplined not to eat too many chips?"; and "How much effort did you make to control the amount of chips eaten?" Next, the manipulation check for perceived goal

[7] We thank Kathleen D. Vohs for providing the puzzles used in this study.

proximity to reach the optimal PHI score was measured with the same two items as in Study 1 (r = .80). Perceived effort in drinking the aversive drink (r = .70) and working on the puzzles (r = .77) were measured by two items: "Did you force yourself to drink the weight-loss drink [to work on the puzzles]?" and "How much effort did you put into drinking the weight-loss drink [working on the puzzles]?" As a check on the effectiveness of the goal relatedness manipulation, participants were asked to indicate the extent to which the drink taste and the puzzle tasks were related to the chips' tasting task, and whether the chips' tasting task, the drink tasting task, and the puzzle task were related to dieting. Finally, participants completed three individual difference scales that were used as controls in the subsequent analyses: the restraint scale (α = .82), the brief self-control scale (α = .95), and the state self-esteem subscales ($\alpha_{performance}$ = .85; $\alpha_{appearence}$ = .86; α_{social} = .62).

Phase VI: Debriefing. After completing the post-experimental questionnaire, a funneled debriefing procedure (adapted from Chartrand and Bargh 1996) was used to assess whether participants had guessed the true nature of the experiment and had suspected any relation between the different tasks. No participant showed any awareness or suspicion of the manipulations or the link between the different tasks. Participants were then thoroughly debriefed about the purpose of the experiment and care was taken to explain the false nature of the PHI feedback and the puzzles' tracing task. The use of deception in this experiment was explained, and all questions about the study were clarified. Finally, participants were thanked and asked not to discuss the experiment with their colleagues.

[8] The manipulation checks were included at the end of the experiment, to avoid alerting participants to the relevance of the manipulated variables for the present study. Further, a pretest (n = 32) was conducted where the order of the manipulation checks, either at the end of each task or at the end of the experiment, was systematically varied across participants and no order effect was found (all Fs < 1).

Results

Manipulation Checks

First, we examined the degree to which the presence of dieting-related flyers and posters in the waiting room activated dieting goals. To correct for skewness in their distribution, individual response times for recognizing the target words were submitted to a natural log transformation (Bargh and Chartrand 2000; Fishbach et al. 2003). Only correct responses were used in the subsequent analyses (97.3%). A 2 (prime: diet vs. control) × 2 (target: dieting-related vs. neutral words) ANOVA with repeated measures on the last factor yielded the predicted Prime × Target interaction effect on the response times, $F(1, 131) = 11.47$, $p < .001$. Planned comparisons showed that participants in the diet-prime condition recognized dieting-related words much faster (M = 565 ms, SD = 150) than those in the control condition did (M = 689 ms, SD = 140), $F(1, 131) = 11.28$, $p < .001$. In contrast, reaction times to neutral words did not differ among the conditions (M_{Prime} = 668 ms, SD = 256 vs. M_{Control} = 677 ms, SD = 147), $F < 1$. This suggests that the goal of dieting was successfully activated in the diet-prime condition, as compared with the control condition.

Next, to check the emotion manipulation, 2 (emotions) × 2 (goal proximity) × 2 (goal relatedness) ANOVAs were conducted for self-reports of positive and negative emotions. As expected, positive emotions were higher in the positive-emotion condition (M = 4.91, SD = .99) than in the negative-emotion condition (M = 3.30, SD = 1.11), $F(1, 112) = 72.29$, $p < .001$, and negative emotions were higher in the negative-emotion condition (M = 4.66, SD = 1.35) than in the positive-emotion condition (M = 2.86, SD = 1.30), $F(1, 112) = 55.37$, $p < .001$. In further support of the effectiveness of the emotion manipulation, the positive-emotion condition was

associated with higher perceived effort during the chips' tasting task (M = 4.23, SD = 1.31) than the negative-emotion condition (M = 3.39, SD = 1.61), $F(1, 112) = 9.26$, $p < .01$. No other effects were significant for all measures. These results also remained unchanged after controlling for the amount (in oz) of potato chips eaten.

The goal-proximity manipulation was also effective. Results of a 2 (emotions) × 2 (goal proximity) × 2 (goal relatedness) ANOVA of goal proximity to the optimal PHI yielded only a significant main effect of goal proximity, $F(1, 112) = 79.96$, $p < .001$. Participants indicated being closer to attaining their PHI goal in the close condition (M = 5.40, SD = 1.26) than in the distant condition (M = 3.23, SD = 1.37). As desired, all participants also reported that it was important for them to attain their optimal PHI score ($M_{Overall}$ = 5.08, SD = 1.70) with no significant differences between experimental conditions, $F(1, 112) = 1.49$, $p > .20$. These results also did not change after controlling for participants' weight.

Finally, participants in the related-goal condition rated the drink tasting task to be related to the chips tasting task (M = 4.33, SD = 1.47), whereas participants in the unrelated-goal condition perceived the puzzle task to be unrelated to the chips tasting task (M = 2.58, SD = 1.52), $F(1, 112) = 39.70$, $p < .001$, as expected. Similarly, participants who performed the drink tasting task perceived it to be more related to dieting (M = 5.27, SD = 1.18) than those who performed the puzzle task (M = 2.23, SD = 1.29), $F(1, 112) = 172.91$, $p < .001$. Further analyses showed that participants also perceived the chips tasting task to be related to dieting regardless of the experimental conditions (M_{Drink} = 4.75, SD = 1.71 vs. M_{Puzzle} = 4.53, SD = 1.52), $F < 1$. No other effects were significant for all measures. Taken together, these results show that participants perceived the chips tasting task and the drink tasting task to be related to the same goal domain (dieting) and the puzzle task to be unrelated to this

goal domain, which is desirable.

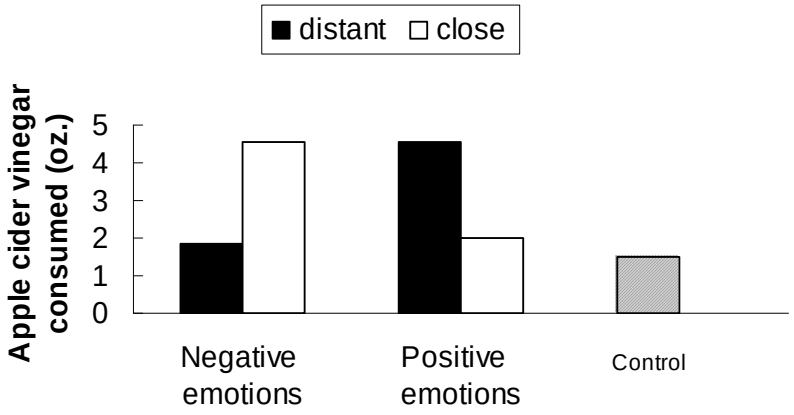
Effort Allocation in Related Goals

Our predictions regarding the joint effects of goal-related emotions and goal proximity on multiple goal pursuit were first tested by examining the amount (in oz) of apple cider vinegar participants consumed. Results of a 2 (emotions) × 2 (goal proximity) ANOVA yielded the predicted two-way interaction, $F(1, 56) = 41.80$, $p < .001$, as illustrated in Figure 3.3A. In support of our reasoning, participants in the positive-emotion condition who were close to attaining their focal goal (PHI goal) consumed less ($M = 2.02$ oz, $SD = 1.43$) than those in the negative-emotion condition who were close to attaining their focal goal ($M = 4.53$ oz, $SD = 1.87$), $F(1, 56) = 19.86$, $p < .001$. These relationships were reversed when participants were far from attaining their focal goal: in the positive-emotion condition participants consumed more ($M = 4.56$ oz, $SD = 1.68$) than in the negative-emotion condition ($M = 1.86$ oz, $SD = 1.17$), $F(1, 56) = 21.96$, $p < .001$.

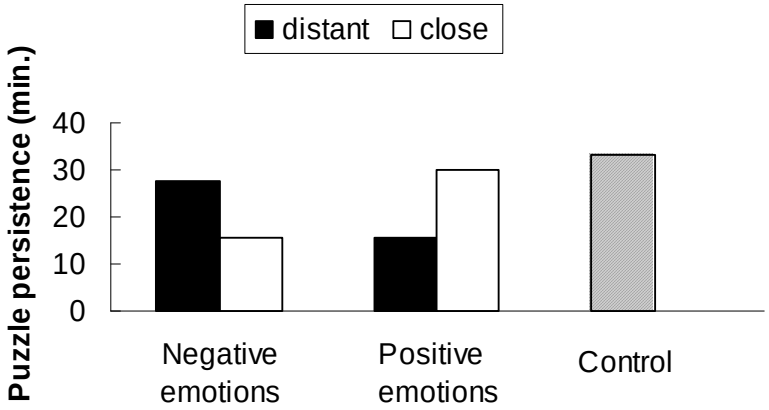
The experimental conditions were also compared to the control condition ($M = 1.48$ oz, $SD = 1.38$) following the procedure recommended by Himmelfarb (1975). All conditions were treated as separate groups in a one-way analysis of variance. In support of our reasoning, results showed that the amount of apple cider vinegar consumed was significantly lower in the control condition than both in the positive-emotion/distant condition, $t(70) = 5.47$, $p < .001$, and in the negative-emotion/close condition, $t(70) = 5.52$, $p < .001$. Further, no difference existed between the control condition and both the positive-emotion/close, $t(70) = .96$, $p > .30$, and the negative-emotion/distant conditions, $t(70) = .68$, $p > .50$.

Figure 3.3. Amount of apple cider vinegar consumed (A) and puzzle persistence (B) as a function of emotions over prior eating behavior and goal proximity.

A



B



The predicted interaction was also found when analyzing participants' self-reports of perceived effort in consuming apple cider vinegar, $F(1, 56) = 14.50$, $p < .001$, again reflecting the same pattern of results. In addition, these findings did not change after controlling for participants' weight, taste ratings of the drink, and the individual difference measures. This provides strong support for the predictions about effort allocation to the focal goal.

Effort Allocation in Unrelated Goals

To test our predictions regarding effort allocation in unrelated goal domains, we examined the log of time (in minutes) that participants spent on the unsolvable puzzles. Results of a 2 (emotions) × 2 (goal proximity) ANOVA revealed the expected two-way interaction, $F(1, 56) = 47.62$, $p < .001$. Consistent with our reasoning, participants in the positive-emotion condition who were close to attaining their focal goal ($M = 29.88$ minutes, $SD = 7.94$) persisted for significantly more time compared to those in the negative-emotion condition who were close to attaining their focal goal ($M = 15.75$ minutes, $SD = 7.06$), $F(1, 56) = 27.02$, $p < .001$ (see Figure 3.3B). Again, these relationships were reversed when participants were far from attaining their focal goal: in the positive-emotion condition ($M = 15.57$ minutes, $SD = 6.01$) participants quit working on the puzzles much sooner than in the negative-emotion condition ($M = 27.45$ minutes, $SD = 6.66$), $F(1, 56) = 20.80$, $p < .001$.

The experimental conditions were also compared to the third control condition ($M = 33.10$ minutes, $SD = 12.36$). As expected, results showed that the amount of time spent working on the puzzles was significantly higher in the control condition than both in the positive-emotion/distant, $t(70) = -5.60$, $p < .001$, and negative-emotion/close conditions, $t(70) = -5.61$, $p < .001$. No difference existed between the

control condition and both the positive-emotion/close, $t(70) = -.48$, $p > .60$, and negative-emotion/distant conditions, $t(70) = -1.10$, $p > .25$.

The predicted interaction effect was also found when analyzing participants' reports of their perceived effort in working on the puzzles, $F(1, 56) = 13.84$, $p < .001$, again reflecting the same pattern of results. These findings also did not change after controlling for the individual difference measures.

Mediation Analysis: Goal Expectancy

Recall that we predicted goal expectancy to be the proximal factor driving these effects, and that it would thus mediate the influence of goal-related emotions and goal proximity on the effortful pursuit of multiple goals. Mediational analyses were conducted to test this prediction (Baron and Kenny 1986). To this end, the two goal-related emotion conditions were first effect coded as 1 for the positive-emotion condition, and -1 for the negative-emotion condition. Likewise, the close condition was coded as 1, and the distant condition as -1. The first regression analysis showed, consistent with the ANOVA's, that the Emotions × Goal proximity interaction had a significant effect on the amount of apple cider vinegar consumed, $\beta = -.65$, $t = -6.47$, $p < .001$, and the time spent on the puzzles, $\beta = .68$, $t = 6.90$, $p < .001$. The following regression analysis showed that the Emotions × Goal proximity interaction also had a significant effect on goal expectancy both in the drink condition, $\beta = -.29$, $t = -3.11$, $p < .01$, and in the puzzle condition, $\beta = -.26$, $t = -2.55$, $p < .05$. Finally and most importantly, when goal expectancy and the squared term of goal expectancy were simultaneously entered into the model as predictors of the effortful pursuit of multiple goals, we found support for the predicted inverted-U-shaped relationship between goal expectancy and the amount of apple cider vinegar consumed ($\beta_{\text{Expectancy}} = -.04$, $t =$

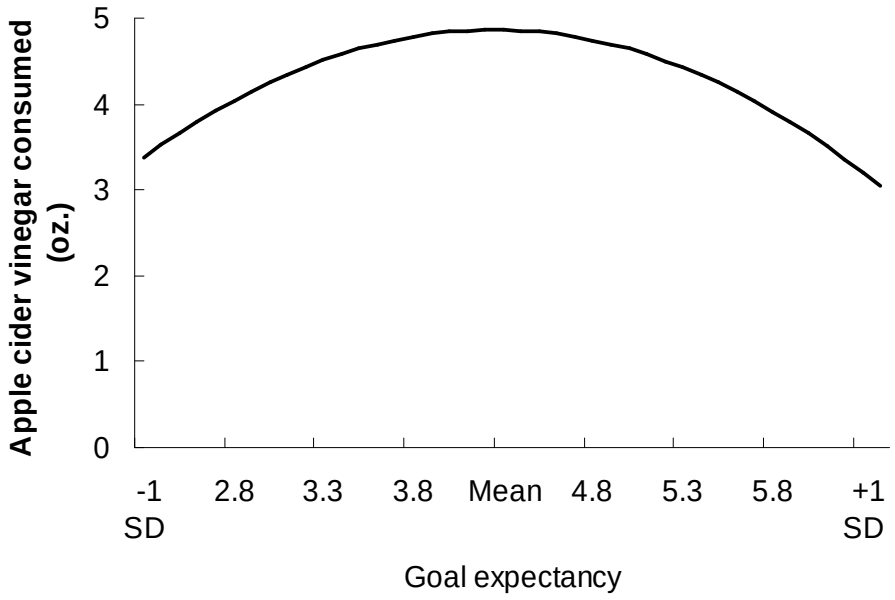
-.41, $p > .65$; $\beta_{Expectancy}^2 = -.64$, $t = -7.05$, $p < .001$), and that goal expectancy has indeed the predicted U-shaped relationship with the time spent working on the unsolvable puzzles ($\beta_{Expectancy} = -.02$, $t = -.24$, $p > .80$; $\beta_{Expectancy}^2 = .60$, $t = 6.79$, $p < .001$). To facilitate the interpretation of this result, they are displayed in Figures 3.4A (vinegar) and 3.4B (puzzles). Clearly, the amount of apple cider vinegar consumed was lowest at both high and low levels of expectancy in reaching the optimal PHI and highest in the middle. The reverse was true for the amount of time spent working on the puzzles.

Importantly, in these latter regression models where goal expectancy was included, the interactive effect of emotions and goal proximity was significantly reduced both in the drink condition, $\beta = -.33$, $t = -3.43$, $p < .01$, and in the puzzle condition, $\beta = .38$, $t = 4.27$, $p < .001$, as confirmed by Sobel (1982) tests of mediation ($Z_{Drink} = 2.84$, $p < .01$; $Z_{Puzzle} = 2.39$, $p < .02$). Together, these results provide support for the mediational role of goal expectancy between goal-related emotions and goal pursuit. The same mediation effects were found when analyzing participants' self-reports of perceived effort both in consuming apple cider vinegar and in working on the puzzles.

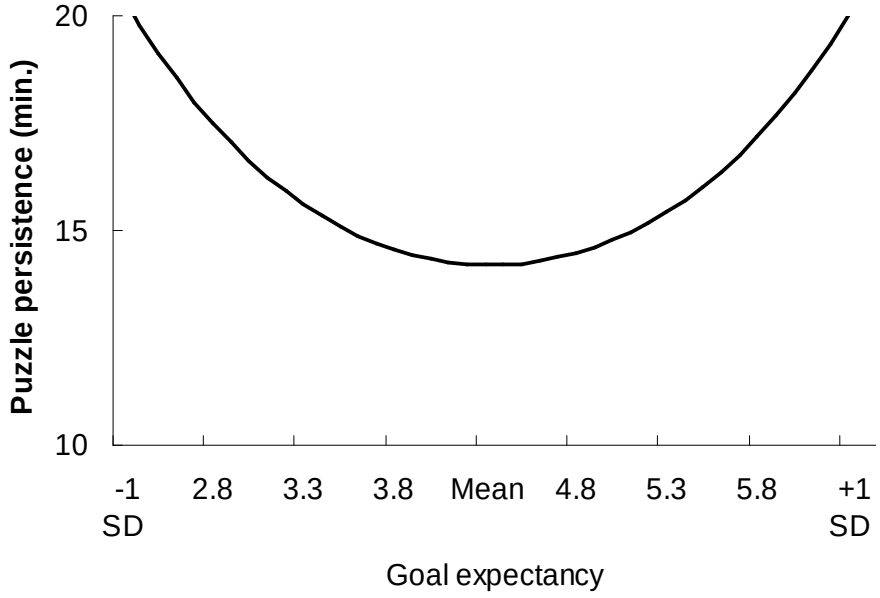
Similar to the findings of Study 1, the results of Study 2 provide consistent evidence for our model of multiple goal pursuit but now in a controlled experimental setting. Of importance, the results indicate that the influence of goal-related emotions and goal proximity on the selective allocation of effort among different goals is mediated by individuals' goal expectancy, as hypothesized.

Figure 3.4. The effect of goal expectancy on the amount of apple cider vinegar consumed (A) and puzzle persistence (B)

A



B



GENERAL DISCUSSION

The challenges of juggling multiple goals confront us on a daily basis. We try to perform in various life domains: work, home, family, finances, spirituality, sports, and social relationships. At the same time, the resources, energy, and time that we have to pursue these various goals are limited. The present research sheds light on how people address this ongoing juggling act. We have provided converging evidence that positive and negative emotions do not uniformly lead to more or less goal pursuit, but instead that how the emotions that flow from goal pursuit determine effort allocation among multiple goals critically depends on goal proximity. Specifically, when attaining a focal goal is distant, positive emotions stemming from prior success in goal striving lead to an increase in effort in that domain, by diverting resources from alternative goals. In contrast, negative emotions associated with prior failure in goal pursuit prompt individuals to disengage from further effort, and doing so leads them to re-channel the effort toward other valued goals. These relationships are reversed when the goal is close. At that point, positive emotions lead to coasting, impairing the further pursuit of the focal goal, and in turn promote a shift of attention and effort to alternative goals. Negative emotions, on the other hand, trigger increases in goal effort, which entail a reduction of effort in pursuing other goals.

We also found evidence for a feedback process in which the emotional and motivational outcomes of current goal-directed behavior become the input for subsequent goal effort, creating a flexible and dynamic system that regulates multiple goal pursuit. These dynamics were observed over the course of daily life (Study 1) and in controlled experimental settings (Study 2), and both in situations where individuals either set goals of their own (Study 1) or were supplied with specific goals (Study 2). It was also found that these effects are independent of individual

characteristics (Studies 1 and 2), and they were found for self-reported (Studies 1 and 2) and unobtrusively observed effort (Study 2). Finally, this research provides a coherent picture of the underlying process that accounts for these effects, by showing (Study 2) how expectancy of goal success mediates the effects of goal-related emotions and goal proximity on effort allocation across multiple goals. The consistency of the findings across different methodologies and measures is reassuring for the proposed model of multiple goal pursuit.

Although multiple goal pursuit is ubiquitous, and the importance of understanding how individuals manage multiple goals has already been recognized halfway last century (e.g., Miller et al. 1960; Simon 1967) and recently emphasized (Austin and Vancouver 1996; Vohs and Baumeister 2004), the topic has received only scant theoretical or empirical attention. We hope that the present research contributes to fill this gap, by developing and testing a parsimonious model which accounts for how individuals heedfully and adaptively regulate their goal-directed efforts over time by continuously monitoring progress across multiple goals, and channeling their limited resources toward those goals where effort is perceived as being potentially more effective at a given time. The proposed model and findings reconcile two opposing theoretical perspectives about emotion's effects on goal-directed behavior. By showing that rather than universally leading to persisting or shifting in goal pursuit, both positive and negative goal-related emotions can have these effects, and that goal proximity determines this. This demonstrates how positive emotions and negative emotions play dual roles in promoting adaptive functioning in multiple-goal settings. That is, positive emotions seem to have evolved to encourage people to continue behaviors that lead to goal progress (Ford 1987), on the one hand, and conserve energy and be open to alternative goals when goal attainment seems certain,

on the other hand. Similarly, negative emotions seem to have evolved to help people avoid unrealistic persistence toward unattainable goals and re-direct energy to the pursuit of new goals (Ford 1987; Wrosch et al. 2003), but also to surmount obstacles to the attainment of viable goals. The adaptive utility of these dynamics also has positive implications for subjective well-being. Indeed, our model and findings suggest that, by being selective in effort allocation, individuals are able to both successfully minimize the anxiety and frustration that may result from trying to pursue multiple goals at the same time (Ford and Nichols 1987; Riediger and Freund 2004) and the feelings of emptiness and regret arising from the relentless pursuit of a single goal (Dodge et al. 1989).

The findings also contribute to Carver and Scheier's (1998) cybernetic model of self-regulation, to which they owe much. We revealed that the flow of goal-directed behavior is determined by both the emotions arising from progress in goal pursuit and the current proximity to goal attainment. In this new light, the "car's cruise control" analogy (Carver and Scheier 1998) takes on a different tone. The speed at which one drives toward one's destination depends not only on the difference between the current speed and the reference speed (cruise control), as suggested by Carver and Scheier (1998), but also on how close or distant one is from getting there (goal proximity), as our studies show. In addition, the current research is the first to provide empirical evidence for the theorized link between positive emotions and coasting in goal pursuit (Carver and Scheier 1998; Carver 2003, 2004). The findings also go beyond existing theorizing by demonstrating that individuals only coast in the vicinity of the destination.

The proposed model provides initial insights into the dynamics of multiple goal pursuit and there are various avenues for future work. For instance, one possible

response to goal attainment or failure in multiple goal pursuit is to modify the level of aspiration associated with the focal goal (Dodge et al. 1989; Miller et al. 1960). In fact, past success may be followed by increases and failure by decreases in the level of aspiration (Festinger 1942; Lewin et al. 1944). This is likely to have implications for whether and when coasting and goal termination occur in the context of multiple goal pursuit, and thus influence the pattern of effort allocation over time. For example, experiencing positive goal-related emotions when one is close to goal attainment may not lead to coasting but rather to an increase in the level of goal aspiration (e.g., try to lose 10 lb instead of 5 lb). Our consistent pattern of findings across the studies suggests that such responses were absent or at least not very prominent here. Still, future research is needed to understand when people coast upon positive emotions and nearby goals or adapt their desired goal levels upward, and likewise when they terminate upon negative emotions and remote goals or adapt desired goal levels downward.

The findings also add to recent research on the behavioral implications of emotions, which suggests among others that positive emotions broaden and negative emotions narrow individuals' thought-action repertoires (e.g., Fredrickson 2001). The present results suggest that, under certain circumstances, the opposite effects may also occur. Consistent with a narrowing effect of positive emotions, individuals who were far from attaining a focal goal, and who experienced positive emotions concentrated their resources on that goal domain, by diverting cognitive and behavioral resources from alternative goals, thus apparently contracting their repertoire temporarily. A broadening effect may occur in the domain of negative emotions on the other hand. When individuals are far from the goal, negative emotions lead individuals to consider and switch to other goals, thus broadening their thought-action repertoires. Future

work is needed to examine how this broadening versus narrowing effect operates at different levels of goal abstractness. For instance, although a narrowing effect may occur at the level of effort allocation across multiple goals (e.g., allocate effort to lose weight rather than other goals), within a given goal domain a broadening effect may also occur concerning the means used to attain the goal (e.g., reduce caloric intake, exercise, join weight-loss support groups, and avoid unhealthy food).

In conclusion, this research contributes to improved understanding of the dynamics of multiple goal pursuit, an important and unexplored aspect of self-regulation. It shows that, in addition to their independent influences on behavior, emotions and goal proximity jointly influence both the resource allocation decisions that individuals make in multiple-goal environments and their expectancies of success. In this way, the present chapter demonstrates how people manage a shifting system of resource allocation to adaptively juggle multiple goals over time.

4

Taking Off the Rose-Colored Glasses

Preventing Affect-Based Bias in Decision Making

THE PURSUIT OF pleasure is a fundamental motive driving human behavior, its influence inescapable and deep (Freud 1920/1950). As consumers, we devote a considerable amount of time, money and energy in a quest to experience or own what is pleasant. Whether selecting a dessert in a restaurant, choosing between vacation destinations, or buying a pair of shoes we often let pleasure govern our day-to-day choices by using our positive emotions toward various decision alternatives as information to form our preferences toward the specific alternatives. Indeed, there is substantial evidence that, on many occasions, consumers use an affect-referral heuristic where affective impressions rather than extensive processing of alternatives provide the basis for judgments and decisions (Pham 1998; Schwarz and Clore 1996; Slovic et al. 2002; Wright 1975).

Striving for pleasure can make the world more exciting, options more attractive and our lives more appealing, but its benefits may also come at a cost. The

enthrallment with pleasure can take over our mental processes, color our judgments and bias our choices. Indeed, research indicates that positive emotions can make evaluations of some alternatives more favorable than if they had been based on the product's merits alone, make us neglect or distort product information that is evaluatively inconsistent with our feelings, and be more careless in decision making (Adaval 2001; Meloy 2000; Schwarz and Bless 1991; Yeung and Wyer 2004). We may be driven to feel good, but by relentlessly seeking happiness we may also fail to notice its unwanted consequences on the quality of our decisions.

To make accurate assessments consumers must be aware that positive affect can be informative but can bias the decision process as well. There is mounting evidence, however, that when reflecting upon our own mental processes once decisions are made, most of us are unable or unwilling to detect that they may be tainted by bias (e.g., Pronin, Gilovich, and Ross 2004; Wilson and Brekke 1994). This blindness to bias can be particularly strong for positive emotions elicited by the target, since it is by acting on these emotions that we make headway on the path to pleasure. Although prior research has investigated the conditions under which people, once biased, are able to detect and correct cognitive biases (e.g., Meyers-Levy and Malaviya 1999; Petty and Wegener 1993; Stapel, Martin, and Schwarz 1998), and the strategies that may allow people to avoid emotions from arising (e.g., Elster 2000; Larsen and Prizmic 2004), much less is know about consumers' ability to anticipate and prevent their initial affective impressions from tainting their decision processes.

Questions thus remain as to whether and when consumers will deliberately forsake the pursuit of pleasure and dampen (instead of maintain) their positive emotions toward one or more of the decision alternatives in order to prevent the adverse effects of using the affect heuristic in decision making. It is also unclear how

effective these emotion regulation attempts are in inoculating consumers' decision making processes against these biases. In this article we address these questions. We propose that consumers' emotion regulation behavior (i.e., dampening or maintaining positive emotions) is jointly determined by the complexity of the specific decision and the weight attached to the immediate or future outcomes of the decision. Results from two studies, using experience sampling (Study 1) and experimental (Study 2) methodologies, show that dampening is highest when decision complexity is moderate and consumers focus primarily on the future outcomes of their current actions. Results also reveal that dampening positive emotions has clear and adaptive implications for the depth of decision processing, purchase decisions, and choice confidence.

POSITIVE EMOTIONS AND BIAS PREVENTION IN DECISION MAKING

There are often two minds at work in everyday consumption decisions (Epstein 1994; Kahneman 2003). One responds rapidly, automatically and emotionally to choice situations as they arise, and infers judgments from these spontaneous affective reactions toward the target typically without modification. It is governed by a pleasure principle that demands seeking out and maintaining positive affective states. The other, slower, effortful and more deliberative, monitors the validity of these responses, which it may then accept, modify, or reject. In doing so, it may prevent positive emotions from biasing decision processes toward supporting the initial feelings about a target. This monitoring function is, however, often quite permissive, allowing judgments to remain anchored on initial emotion-based impressions, even when this leads to poor or biased judgments and decisions (Kahneman and Frederick 2002). Although it might appear rather easy to scrutinize why we feel as we do about a target

and such introspection could improve decision processes by making them more thorough and less myopic, we are unlikely to do so. This is because people generally have limited access to how their own judgments are formed and underestimate their own vulnerability to mental biases in judgment (Nisbett and Wilson 1977). There are also seldom overt signs, accessible to immediate introspection, that decisions are biased. As noted by Wilson and Brekke (1994, p. 121), "Human judgments–even very bad ones–do not smell."

Most of us, of course, recognize that some past consumption decisions may have been tainted by emotions and that other people are a victim of such bias as well. But, for any particular decision we are currently in the process of making, the monitoring typically reassures us that it is free from bias (Pronin et al. 2004). Rather than feeling universally inoculated against it, we are unlikely to find strong traces of bias in the decision at hand. This pervasive blindness to bias is consistent with evidence showing that, once biased, people only attempt to correct their judgments when blatantly instructed to do so (e.g., Wegener and Petty 1995), or when conditionally warned to do so if they feel that their judgments might be influenced by the context (Stapel et al. 1998). To the extent that product-induced positive emotions are compelling, the perception of biasing influences may be even more limited. In fact, Wyer and Budesheim (1987) found that people are likely to disregard the biasing influence of unfavorable but not of favorable information about a target, even when instructed to do so.

To preclude positive emotions induced by one or more of the alternatives from biasing our final decisions, however, it is not always necessary to change our minds and modify, undo or reject judgments or decisions that have initially been accepted as valid. Wilson, Gilbert, and Wheatley (1998) suggested that people's ability to avoid

unwanted influences on their own judgments may vary as a function of the point in the contamination process at which they try to prevent bias. In particular, rather than engaging in remedial action once the harm is done, individuals may engage in preventive action by either limiting their exposure to potentially biasing stimuli, or deliberately preventing their adverse effects on mental processes. Hoch and Loewenstein (1991) suggested, for instance, that avoiding situations in which they are likely to experience increases in desire towards a product, is perhaps the best way for consumers to avoid impulsive behavior. Rook and Hoch (1985) provided evidence that consumers use a variety of distancing strategies to ward off temptation, including maintaining physical distance from places where desired products are sold. Exposure control, however effective as a defensive mechanism, is not without limitations as noted by Wilson and Brekke (1994). In consumption contexts, where sources of bias abound (e.g., advertising), to control one's exposure to unwanted information would entail functioning in a permanent state of vigilance which, in spite of all our caution, would be difficult to sustain.

A preventive strategy, on the other hand, involves deliberate efforts to preclude biasing information to which one has already been exposed from tainting one's judgments and decisions. Given that consumers often face decisions in which they experience product-induced positive emotions (e.g., Richins 1997), successful prevention of emotion-induced biases will then entail dampening these positive emotions before they permeate their mental processes. In this way, dampening can contribute to adaptive functioning by allowing consumers to both access the evaluative information associated with positive emotions and at the same time limit their (potential) biasing effects on information search and processing.

An important premise underlying the use of dampening to prevent the mental

contamination of judgment is that consumers should be generally able to regulate their own emotional states. Consistent with this possibility, research indicates that people do not always respond passively to their emotions (e.g., Erber, Wegner, and Therriault 1996; Gross 1999). Rather, they can purposefully modulate the occurrence, duration, experience and expression of their emotional feelings. We discuss next the conditions under which consumers are likely to maintain their product-induced positive emotions or instead to dampen these emotions as a way to prevent the biasing effects of using affect referral as a judgment heuristic. We also elaborate on the implications of such debiasing attempts for consumers' decision processes.

Decision Complexity and Bias Awareness

Whether consumers will ultimately take actions to maintain or dampen their positive emotions toward a product is likely to be determined by the extent to which they are aware of their biasing effect in judgments and decisions. Indeed, the importance of awareness as a prerequisite to mental correction has been emphasized in theories of mental control (e.g., Wilson and Brekke 1994). This is because, as already noted, people are not especially good at discriminating between biased and unbiased judgments. Consumers will only detect the presence of positive emotion-induced biases when clues to the adverse effects of these biases are so salient that consumers cannot but wonder if such emotions might be contaminating their decision processes.

We propose that decision complexity may provide such a clue. Specifically, we predict that as the choice set grows and thus decisions become more complex, so will consumers' awareness that their positive emotions toward a particular product may be biasing their decision behavior. Prior research has shown that consumers experience increasing feelings of responsibility for the choices they make as the

number of product alternatives grows (Iyengar and Lepper 2000). Indeed, as decision complexity increases, both the availability of alternatives and the likelihood of finding a potentially superior alternative become more salient (Greenleaf and Lehmann 1995). Thus, when faced with more choice consumers should be more concerned about potential biases in their judgments (by failing to consider other alternatives) and scrutinize their decision behavior more exactingly. In this way, decision complexity can help consumers "smell" the presence of positive emotion-induced biases toward a preferred product.

Consideration of Future Consequences

Even when consumers are aware that positive emotions toward a product can color their judgments, they must also be motivated to modify their emotional responding and trade off their positive emotions for other instrumental goals. Research suggests that people generally lack the motivation to scrutinize and modify their own thoughts and feelings for many reasons. First, they are reluctant to construe their own judgments as biased, as this word implies a number of unpleasant connotations such as "prejudice" or "unfairness" (Pronin et al. 2004). Second, they are motivated to maintain a positive view of themselves, their judgments, and their decisions (e.g., Baumeister 1998; Steele 1988). Third, and perhaps most important, they do not want to violate one of the most fundamental human motives–the pursuit of pleasure–as dampening would demand. Hence, whether or not consumers attempt to correct for salient biases can often be traced to motivational factors.

We predict that whether decision complexity will ultimately be conducive to maintaining or dampening product-induced positive emotions is contingent on consumers' temporal perspective on the consequences of their current decisions. Prior

research has shown that individuals differ in the extent to which they consider the immediate as opposed to the future consequences of current actions, and that these differences can have important motivational consequences for their present decision making (Strathman et al. 1994; Trope and Liberman 2003). When confronted with a decision, the consideration of its distant (rather than its immediate) outcomes makes people more responsive to courses of action that have long-term (as opposed to short-term) positive benefits (Orbell, Perugini, and Rakow 2004), and more willing to delay gratification (Strathman et al. 1994). Relatedly, research on time-inconsistent preferences suggests that increases in temporal proximity to a product lead to increases in the desire for it and in consumers' impatience to owning it (Hoch and Loewenstein 1991).

We predict therefore that when consumers focus on the future consequences of their decisions, the level of dampening is likely to be highest at moderate levels of decision complexity, and lowest at both low and high levels of decision complexity. At low levels of decision complexity, where emotion-induced biases are likely to go unnoticed, consumers are likely to maintain their positive emotions without a moment's doubt about the potential future costs of a suboptimal choice. At moderate levels of decision complexity, where the presence of an emotional bias is likely to be detected, consumers with a distal focus will be sensitive to the potential future costs stemming from this bias. As a result, they are likely to take actions to dampen their product-related positive emotions in an attempt to remove the source of bias. At high levels of decision complexity, although the emotion-induced bias is relatively salient, the overwhelming cognitive costs of evaluating all alternatives available is likely to override the concern for potential future costs associated with a poor decision. Indeed, prior research has shown that having too many alternatives, to the extent that it can

lead to choice overload, has a demotivating effect on consumers (e.g., Iyengar and Lepper 2000).

In contrast, we predict that when consumers focus on the immediate consequences of their current decisions they will be likely to maintain their positive emotions toward the product, independently of the level of decision complexity. Because these consumers are sensitive to proximal benefits of their actions at all levels of decision complexity, they should be uniformly driven by hedonistic motives and perceive current decisions as opportunities to achieve immediate gratification by acting on their emotions. Efforts to maintain or dampen positive emotions are therefore posited to be jointly determined by the awareness effect of decision complexity and the motivational role of consideration of future consequences.

The Debiasing Outcomes of Dampening

Thus far, we have focused on the factors that may lead consumers to deliberately attempt to maintain or dampen their positive emotions toward a target in order to inoculate their judgments and decisions against the biasing influences of affect. We have not yet addressed whether and how these debiasing efforts produce the desired effects on consumers' decision processes. This is important in light of evidence that even when people construe their judgments as biased and are motivated to debias them they are not always successful in doing so (Petty and Wegener 1993; Stapel et al. 1998). Studies on judgment correction suggest that people have difficulty in construing the implications of biasing influences for their judgments. They are, as a result, often unable to accurately estimate how much correction is needed. For instance, people have been found to adjust too much (i.e., correction is larger than required and judgments become biased in the reverse direction; Stapel et al. 1998),

adjust too little (i.e., the magnitude of the correction is not large enough to fully debias; Petty and Wegener 1993), and even adjust without need (i.e., correction when no bias is present; Petty and Wegener 1993). Collectively, these findings have led researchers to be pessimistic regarding people's ability to avoid mental contamination (e.g., Wilson and Brekke 1994).

Unlike post-hoc judgment correction, we argue that emotion regulation will allow consumers to effectively prevent unwanted influences on their judgments and decisions. This is because people are generally cognizant of the valence and intensity of their ongoing positive emotions, inasmuch as emotions are accompanied by a variety of phenomenological signs (e.g., Frijda, Kuipers, and ter Schure 1989). As a result, consumers are more likely to estimate with accuracy the direction and magnitude of the required correction, and adjust accordingly. Hence, we predict that dampening will be accompanied by adaptive changes in consumers' decision processes that offset the adverse impact of positive emotions: increases in the depth of processing, decreases in the likelihood of choosing the emotion-eliciting product, and increases in choice confidence. In contrast, we predict that maintaining product-induced positive emotions will decrease the depth of processing, increase the likelihood of choosing the emotion-eliciting product, and be associated with high levels of choice confidence.

THE PRESENT RESEARCH

The present research investigates whether and when consumers maintain their product-induced positive emotions, or deliberately forsake the pursuit of pleasure and dampen these emotions in order to resist the adverse effects of using the affect heuristic. We hypothesized that maintaining and dampening are jointly determined by

the complexity of the decision environment and the consideration of the future consequences of current decisions. Specifically, when consumers focus on the future outcomes of their decisions, the level of dampening is likely to be highest at moderate levels, and lowest at both low and high levels of decision complexity. In contrast, when the focus is on the more immediate outcomes of decisions, consumers will be likely to maintain their product-induced positive emotions independently of decision complexity. We also examine the implications of emotion regulation for decision processes. We now report on two studies with complementary methodologies to test these predictions. Our studies used experience sampling and experimental methodologies, took place in the field and in the laboratory, and included both chronic measures and situational priming of consideration of future consequences.

STUDY 1

Study 1 tests our predictions in a consequential, naturalistic setting by using an experience sampling approach. It examines consumer responses to an actual shopping event involving an initial positive emotional response toward a specific product. In this study, we measured participants' chronic consideration of future consequences.

Method

Sample and Procedure

A total of 111 undergraduate students were recruited to participate in this study for course credit. All participants attended an orientation session, in which they were given a questionnaire to record their feelings, thoughts, and behavior in response to an actual shopping event. All participants were instructed that such shopping event

should involve an experience where they felt positive emotions toward a specific product. It was stressed that it was not important whether they purchased the product or not, it was enough that they seriously considered buying it. Participants were also told that they should be alone during this event in order to avoid social influences on their emotion regulation and decision behaviors. Finally, participants were instructed to fill out their questionnaires as soon as possible on the same day the event occurred and to return it on the following day. After reading and signing an informed consent form, participants received the questionnaire enclosed in an envelope and were asked not to open the envelope until they were ready to complete it. Of this initial sample, 94 participants (78 women, 16 men; mean age = 19.83 years) completed the full research protocol, which represents a 93% response rate.

Consideration of Future Consequences

Approximately two weeks prior to this study, participants completed the Consideration of Future Consequences scale (CFC; Strathman et al.'s 1994) during large group testing sessions. This 12-item measure provides a reliable and valid measure of chronic individual differences in the extent to which individuals are influenced by the immediate or the distant outcomes of their actions in deciding how to act. Two sample items are: "I often consider how things might be in the future and try to influence those things with my day to day behavior," and "I think that sacrificing now is usually unnecessary since future outcomes can be dealt at a later time" (reverse-scored). In the present study, the scale had good reliability (α = .88), and the mean CFC score on a 5-point scale was 3.24 (*SD* = .72; range: 1.67-4.58).[9]

[9] No significant differences emerged for gender, age, and CFC between these participants and the 17 participants that attended the orientation session but failed to complete the questionnaire (all *F*'s < 1).

Questionnaire Measures

The questionnaire first asked participants to provide a brief description of the event, to record the date and time of the event, and to describe the type and price of the emotion-eliciting product. As a check, participants were then asked to indicate the extent to which they had experienced each of six positive emotions toward the focal product at the time of this event (enthusiastic, happy, joyful, warmhearted, hopeful, optimistic) on seven-point items (Richins 1997) anchored at "not at all/very much" (α = .80).

To assess participants' emotion regulation behavior we included an open-ended question asking whether they had tried to influence their positive emotions toward the focal product in any way, and if so to describe exactly what they had done and why. Participants were also asked to code their responses as (a) tried to maintain or increase, or (b) tried to decrease these positive emotions. In addition, participants rated the degree to which they had experienced as number of possible reactions to the event in order to capture both dampening (5 items) and maintaining (4 items) of product-induced positive emotions (1 = not at all; 7 = very much).[10] The order of the items measuring dampening and maintaining was systematically varied across participants, and no order effect was found. The items measuring dampening were (α = .82): "Did you try to dampen your excitement about the product?"; "Did you try to keep your positive feelings about the product under control in order to better concentrate on your purchase decision?"; "Did you try not to go for your first good

[10] As a test of discriminant validity, we compared a measurement model with the dampening and maintaining items loading on separate factors against an alternative model with all items loading on a single factor. A chi-square difference test (Kline 1998) provided support for a two-factor solution (χ^2 difference (1, N = 94) = 44.53, $p < .001$), indicating discriminant validity between the measures. Also, both scales were negatively correlated with each other (r = -.62, $p < .01$). The treatment of maintaining and dampening as two distinct constructs is consistent with prior empirical research (Wood, Heimpel, and Michela 2003) and with theoretical conceptualizations of emotion regulation (e.g., Parrott 1993).

feelings about the product when making your purchase decision?"; "Did you try to restrain your positive emotions toward the product, so that they would not influence your thinking?"; and "Did you try to remind yourself of reality to bring down your positive emotions toward the product?" The items measuring maintaining were (α = .85): "Did you try to keep feeling good about the product for as long as you could?"; "Did you try to maintain your positive emotions about the product?"; "Did you try to savor your good feelings about the product?"; and "Did you try to enjoy your positive feelings about the product to the fullest?"

Decision complexity was measured by four items (adapted from Chernev 2003; Iyengar and Lepper 2000; α = .89): "To what extent did you have enough products to choose from in the store for this product category?" (1 = I felt I had too few products; 4 = I had the right number of products; 7 = I had too many products); "In your opinion, to what extent did the products in the store represent the full range of options available for this product category" (1 = not at all; 7 = very much); "To what extent were the differences between the products available in the store for this product category hard to judge?" (1 = not at all; 7 = very much); and "How would you rate the complexity of this decision?" (1 = not at all complex; 7 = very complex).

To assess participants' depth of processing five items adapted from Meyers-Levy and Peracchio (1996) and Pham (1996) were used (1 = not at all; 7 = very much). The items were (α = .77): "To what extent did you take your time to evaluate carefully all the alternatives available in the store?"; "Did you make an effort to compare the characteristics of the different products available?"; "To what extent are you confident that you evaluated all the alternative products available in the store thoroughly"; "To what extent did you follow your inner instincts and feelings when making the decision?" (reverse-scored); and "To what extent did you make your

decision because it was emotionally satisfying?" (reverse-scored).

Next, participants were asked to indicate whether they had bought the product for which they had initially felt positive emotions. Response alternatives were: (1) yes; (2) no, I bought another, similar product in that store; (3) no, I bought another, similar product in a different store; or (4) no, I did not buy this product today.

Participants also indicated their choice confidence with the following two items (1 = not at all; 7 = extremely) adapted from Chernev (2003) and Iyengar and Lepper (2000): "How certain are you that this product will satisfy you?" and "How confident are you that the product you selected is the one that you enjoy the most among all of the product alternatives available?" (r = .71). Participants who did not buy a product were not asked these questions, as these items do not apply.

Finally, all participants completed Beatty and Talpade's (1994) Product Knowledge scale (α = .84) to control for differences in category familiarity, and were asked to record the date and time at which they were completing the form. In the subsequent analyses, we also control for the possibility that the predicted effects varied as a function of other relevant individual traits collected during prior large group testing sessions. These include the Impulsive Buying scale (α = .89; Rook and Fischer 1995) to control for variations in the tendency to buy spontaneously and unreflectively; the Need for Cognition scale (α = .76; Cacioppo and Petty 1982) to control for differing tendencies to engage in and enjoy effortful information processing; and the State Self-esteem scale (α = .86; Heatherton and Polivy 1991), which has been linked to differences in emotion regulatory behavior (Wood et al. 2003). Support for our predictions over and above these individual traits would attest to the robustness of the findings.

Results

Descriptive Statistics

Participants reported experiencing positive emotions toward a wide range of products (e.g., clothing, consumer electronics, DVDs, computer games), with prices ranging from $2.5 to $320 (*M* = $66.11; *SD* = $66.02). Overall, participants reported to have experienced strong positive emotions toward the focal product during the event (*M* = 5.49; *SD* = .92; range: 4-7). Further analyses assessing the relationship between each of these variables and CFC revealed no significant associations, which is desirable.

Dampening/Maintaining

To test whether decision complexity and CFC influence positive emotion regulation in the hypothesized directions, self-reports of dampening and maintaining of product-induced positive emotions were submitted to multiple regressions with five predictors: (1) decision complexity; (2) decision complexity squared; (3) CFC; (4) the interaction between 1 and 3, and (5) the interaction between 2 and 3. The results are summarized in Table 4.1.

Importantly and as we hypothesized, the decision complexity squared × CFC interaction significantly predicted both dampening and maintaining, showing that the relationship between decision complexity and positive emotion regulation varies in form as a function of CFC. Figure 4.1 illustrates these significant interactions. In the figure, we plotted the predicted values of dampening and maintaining for participants scoring 1 SD above and below the mean of decision complexity and CFC, employing commonly used regression techniques (Aiken and West 1991). Clearly, for participants with high CFC we found support for the predicted inverted-U-shaped

relationship between decision complexity and dampening, and U-shaped relationship between decision complexity and maintaining. The level of dampening was highest at moderate levels of decision complexity and lowest at both low and high levels of decision complexity (low to moderate complexity: β = 1.85, p < .001; moderate to high complexity: β = -2.25, p < .001). The reverse was true for maintaining (low to moderate complexity: β = -1.37, p < .001; moderate to high complexity: β = 1.95, p < .001). In contrast, participants with low CFC were predicted to maintain their positive emotions toward the focal product independently of the level of decision complexity. In support of this prediction, we found that participants with low CFC were less likely to dampen (low to moderate complexity: β = -.23, p > .20; moderate to high complexity: β = .07, p > .75) and more likely to maintain (low to moderate complexity: β = -.28, p > .20; moderate to high complexity: β = .15, p > .55) their positive emotions at all levels of complexity.

In further support of our predictions, this pattern of results was also found when analyzing participants' coding of the open-ended question about whether they had done something to influence their product-induced positive emotions. Of the 94 participants, 58 reported to have deliberately tried to maintain or increase and 36 to decrease their positive emotions. Importantly, results from a logistic regression show that the decision complexity squared × CFC interaction has the predicted negative effect on dampening (B = -.93, SE = .31; Wald χ^2 (1, N = 94) = 9.34, p < .01).

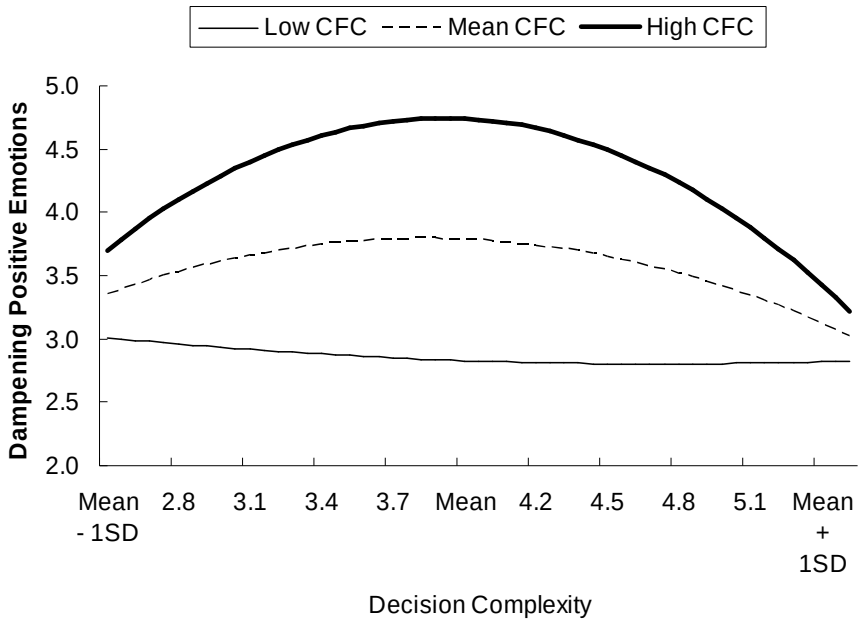
TABLE 4.1. Study 1: Effects of Decision Complexity and CFC on Dampening and Maintaining Product-Induced Positive Emotions

	Dampening			Maintaining		
Predictors	*β*	*t*	*p*	*β*	*t*	*p*
Decision complexity	-.14	-1.7	.093	.11	1.18	.24
Decision complexity squared	-.51	-5.93	<.001	.51	4.96	<.001
CFC	.83	7.42	<.001	-.50	-3.81	<.001
Decision complexity × CFC	-.07	-.79	.43	.19	1.93	.06
Decision complexity squared × CFC	-.81	-6.63	<.001	.53	3.70	<.001
R^2		.54			.36	
F (*df*), *p* value		20.33 (5, 88), *p* < .001			9.70 (5, 88), *p* <.001	

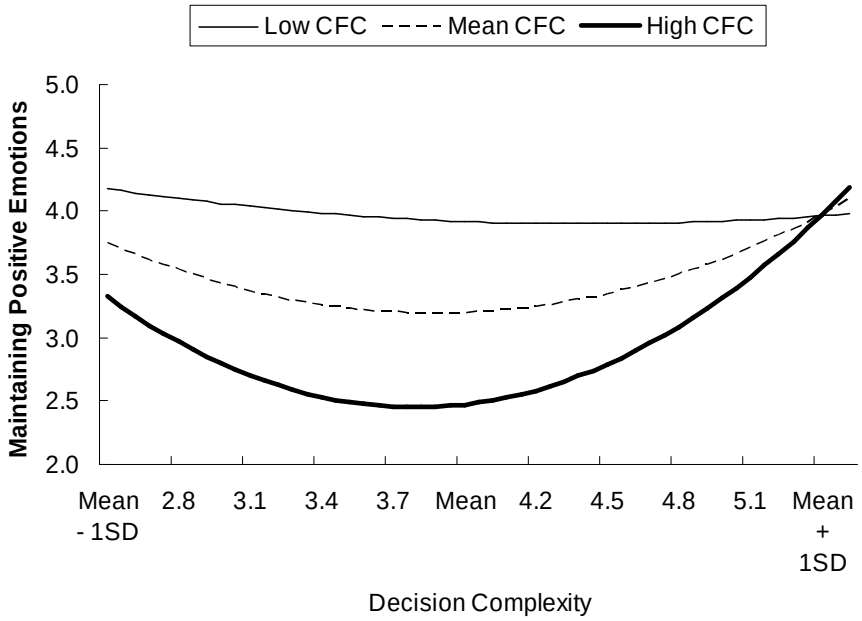
NOTE.–All variables are mean centered. CFC = consideration of future consequences.

FIGURE 4.1. Study 1: Effects of Decision Complexity and CFC on Dampening (A) and Maintaining (B) Product-Induced Positive Emotions

A



B



All the reported results did not change after controlling for product knowledge, impulsive buying behavior, need for cognition, self-esteem, the level of positive emotions experienced toward the focal product, and price of the product, which underlines the robustness of the findings.

Depth of Decision Processing

In support of our predictions, the decision complexity squared × CFC interaction significantly predicted depth of processing (β = -.68, p < .001). Among participants with high CFC we found support for the predicted inverted-U-shaped relationships between decision complexity and depth of processing (low to moderate complexity: β = 1.78, p < .001; moderate to high complexity: β = -1.94, p < .001). Participants with low CFC generally exhibited lower depth of processing (low to moderate complexity: β = -.18, p > .35; moderate to high complexity: β = -.20, p > .40), independently of decision complexity.

Purchase Behavior

Fifty seven participants purchased the emotion-inducing product. In support of our reasoning, results from a logistic regression indicated that the decision complexity squared × CFC interaction significantly predicted the likelihood of purchasing the focal product (B = .89, SE = .35; Wald χ^2 (1, N = 94) = 6.64, p < .02). Specifically, the likelihood of purchasing the emotion-inducing product was lowest at moderate levels of decision complexity and highest at both low and high levels of decision complexity (low to moderate complexity: B = -4.81, SE = 1.37; Wald χ^2 (1, N = 94) = 12.31, p < .001; moderate to high complexity: B = 5.12, SE = 1.46; Wald χ^2 (1, N = 94) = 12.29, p < .001). In contrast, participants with low CFC were likely to purchase the emotion-

inducing product at all levels of decision complexity (low to moderate complexity: B = -.64, SE = .57; Wald χ^2 (1, N = 94) = 1.26, p > .25; moderate to high complexity: B = 2.17, SE = 1.15; Wald χ^2 (1, N = 94) = 3.53, p > .06).

Choice Confidence

The decision complexity squared × CFC interaction significantly predicted choice confidence (β = -.47, p < .02). Among participants with high CFC we found support for the predicted inverted-U-shaped relationships between decision complexity and choice confidence (low to moderate complexity: β = .95, p < .05; moderate to high complexity: β = -1.90, p < .001). Participants with low CFC displayed relatively high levels of choice confidence (low to moderate complexity: β = .04, p > .85; moderate to high complexity: β = -.25, p > .45) across all levels of decision complexity. This suggests that because people with low CFC are typically sensitive to the immediate hedonic consequences of their choices, they assume that by basing their choices on positive affect they have performed well.

Dampening as a Debiasing Mechanism

We predicted that dampening would be an effective mechanism for inoculating consumers' decision making processes and choice behavior against the unwanted influences of positive emotions. Lending clear support for our predictions, dampening was found to fully account for the influence of decision complexity and CFC on consumers' decision processes and purchase decisions. In brief, results from mediational analyses (Baron and Kenny 1986) indicate that when dampening was added to the regression analyses as a predictor of the depth of processing, product choice, and choice confidence, the parameter estimates for dampening were

significant and in the expected directions (depth of processing: β = .64, p < .001; likelihood of purchasing the emotion-inducing product: B = -1.72, SE = .50; Wald χ^2 (1, N = 94) = 11.85, p < .01; choice confidence: β = .65, p < .001). Importantly, in these latter models, the interactive effect of decision complexity squared and CFC lost its significance (depth of processing: β = -.16, p > .20; likelihood of purchasing the focal product: B = .01, SE = .43; Wald χ^2 (1, N = 94) = .00, p > .98; choice confidence: β = .14, p > .50). These results provide evidence for the complete mediational role of dampening, indicating that dampening is indeed an effective debiasing strategy.

Discussion

Study 1 shows that consumers can engage in volitional emotion regulatory processes in order to prevent the biasing impact of positive emotions on their mental processes. Importantly, they do so when this requires going against the fundamental motive of pursuing pleasure. The results demonstrate that decision complexity, to the extent that it can increase the salience of biases, and chronic individual differences in consideration of the future consequences of current actions, to the extent that they can motivate bias correction, are critical factors that jointly determine whether and when consumers are likely to attempt to immunize their decisions from the adverse effects of initial positive affect toward a product. We also found that dampening allows consumers to effectively bring about the intended debiasing outcomes.

STUDY 2

In contrast to Study 1, which used chronic measures of CFC, Study 2 temporarily manipulates consideration of immediate or future consequences of decisions in a

controlled experiment. The design of Study 2, also adds important new features. It includes unobtrusive measures of both emotion regulation and decision behavior, allowing us to trace more precisely the dynamics of dampening, and its effects on information acquisition and decision outcomes.

Method

Participants and Procedure

A total of 180 undergraduate students (127 women, 53 men; mean age = 20.32 years) participated for course credit and were randomly assigned to the cells of a 2 (CFC: low or high) × 2 (product-eliciting emotions: positive or neutral) × 3 (decision complexity: low, moderate or high) between-subjects factorial design with emotion regulation and decision behavior as the dependent variables. The inclusion of a neutral-emotion condition provided an undistorted baseline against which participants' responses in the positive-emotion condition could be compared. A schematic depiction of the experimental procedure is shown in Table 4.2 and detailed below. The entire procedure was presented on a personal computer, using the software program Authorware 6.0 (Macromedia Inc. 2001).

Phase I: Manipulation of CFC. The first study was introduced as the first of two unrelated studies to be performed during the experimental session. Participants were asked to participate in the development of a Life-Event Inventory that would be used to assess the variety of life events that college students often experience in their lives, by describing two different types of life events.

TABLE 4.2. Study 2: Schematic Experimental Structure

	Experimental Task and Stimuli	Objectives	Measures
Phase I	Life-Event Inventory (Part I): Description of a real life experience where a positive outcome was attained because the future (high-CFC condition) or the immediate (low-CFC condition) consequences of one's behavior were used as guides for current actions.	Manipulation of consideration of future consequences	
Phase II	Exposure to a positive-affect-eliciting ad for a digital camera in the positive emotions condition or a nonaffect-eliciting ad in the neutral condition.	Manipulation of product-eliciting emotions	
Phase III	Description of subsequent choice task. Decision complexity was manipulated by varying the number of alternatives in the choice set + Life-Event Inventory (Part II): Description of a real life consumption experience of participants' choice.	Manipulation of decision complexity + Measurement of emotion regulation behavior	Recall of positive as opposed to negative events as a measure of dampening.
Phase IV	Choice task based on a product × attribute matrix.	Measurement of decision behavior and choice	Amount of processing + Selectivity in processing + Pattern of information search + Product choice
Phase V	Post-experimental questionnaire	Manipulation checks	Manipulation checks
Phase VI		Debriefing	

On this pretense (in fact, the manipulation of CFC), participants in the high-CFC conditions (low-CFC conditions) were first asked to remember and describe a recent positive event in which they focused on the future (immediate) implications of their behavior and used them to guide their current actions. In this way, CFC was manipulated by priming participant's focus on the immediate versus future consequences of their current decisions. To check whether this was an important and positive event for them, participants were asked, "To what extent was this situation important for you?" (1 = not at all; 7 = very much) and "How positive or negative was the outcome of this situation for you?" (1 = negative; 7 = positive). On average, participants recalled an important event (M = 6.19) with a positive outcome (M = 5.78). Next, participants were told that because recalling one event influences the way people recall other events, they would only be asked to recall and describe the second life event at a later time.

Phase II: Manipulation of Product-Eliciting Emotions. In the meantime, participants were asked to participate in an unrelated study about how consumers make decisions in actual shopping situations, in which they first happen to see an advertisement for a product and only later enter a store in order to learn more about it and make a purchase decision. Participants were asked to imagine that they wanted to buy a digital camera and were shown an ad for a digital camera on the computer for 60 seconds (in fact, the manipulation of product-eliciting emotions).

Consistent with prior research on persuasion (e.g., Soldat and Sinclair 2001; Aaker and Williams 1998), product-eliciting emotions were manipulated by using print advertisements as emotional stimuli to evoke either positive or neutral emotions toward a focal product. More specifically, positive emotions were evoked by three venues: (a) emotional images (e.g., people smiling), (b) vocabulary choice, phrasing,

and tag lines (e.g., "capture the happiness"), and (c) color scheme (e.g., bright colors). In the neutral conditions, a nonaffect-eliciting ad was designed by including: (a) neutral images (e.g., images of buildings), (b) neutral vocabulary, phrasing and tag lines (e.g., "take pictures"), and (c) a black-and-white color scheme. To ensure that the ads were only manipulating participants' emotions towards the product but not their level of product information, no specific information about product characteristics was included in any of the two ads.[11]

Phase III: Manipulation of Decision Complexity and Measurement of Emotion Regulation. After seeing the ad, participants were informed that they would now be asked to make a selection from a set of digital cameras (including the camera featured in the ad). Decision complexity was manipulated by varying the number of alternatives included in the choice task (Payne, Bettman, and Johnson 1993). In the low-complexity condition, participants were told that they would have 4 digital cameras to choose from. In the moderate-decision complexity condition, the number of digital cameras was 8. In the high-complexity condition, the number of digital cameras was 16, which is in line with prior research (e.g., Chernev 2003). In all conditions, participants were also told that for each camera they would have information on 5 attributes.

Then, in line with the procedure adopted by Yeung and Wyer (2004),

[11] A pretest (n = 50) was conducted to establish whether these two versions of the ad indeed differed in the extent to which they induced positive or neutral emotions toward the digital camera featured in the ad, without altering participants' mood. Participants were asked to indicate their feelings toward the digital camera (α = .92) and toward the ad (α = .78) on the same six emotion items used in study 1. Participants were also asked to indicate how they felt at that moment in terms of the 10 positive (α = .90) and the 10 negative (α = .91) adjectives from Watson, Clark, and Tellegen's PANAS (1988) scale. As intended, the results confirmed that the positive-affect-eliciting ad (compared to the nonaffect-eliciting ad) elicited more positive emotions toward the digital camera (M = 4.4 vs. 2.62; p < .001) and the ad (M = 4.76 vs. 3.53; p < .001). Importantly, the effects of the ad manipulation on emotions toward the camera remained significant (p < .05) after controlling for emotions toward the ad. Finally, there were no differences in mood between the two ad conditions (Positive affect: M = 3.28 vs. 3.25; ns.; Negative affect: M = 1.67 vs. 1.8; ns.).

participants were told that, on many occasions, consumers only enter a store to check the features of a product some time after they have seen it advertised. To simulate these conditions participants were asked to perform an unrelated task. This unrelated task (in fact, the measurement of emotion regulation) was introduced as the second part of the Life-Inventory Event study. Specifically, participants were now asked to recall and describe a second autobiographical memory of their choice about a past consumption experience. This procedure was adapted from Erber and Erber (1994), who have shown that affect-incongruent recall is an effective tool for affect regulation. References to more negative (positive) consumption experiences were considered indicative of participants' attempts to dampen (maintain) their positive emotions. Again, participants rated the extent to which this event had been important for them (1 = not at all; 7 = very much), and coded the event as positive or negative with the following two items (r = .72): "How positive or negative was this consumption experience for you?" (1 = negative; 4 = nor positive, nor negative; 7 = positive) and "How did this situation make you feel?" (1 = bad; 7 = good).

Phase IV: Choice Task. Following the completion of the Life-Event Inventory study, participants were presented with a computer-based information acquisition system similar to Mouselab (Payne et al. 1993) developed specifically for this study. They were presented with an interactive computer product choice simulation and were asked to select a product from a product × attribute matrix. [12] Participants were first given a practice trial. Next they were presented with the product × attribute matrix for choosing a digital camera. Product information was

[12] To determine which product attributes to use, a pretest (n = 46) was conducted whereby participants ranked 20 attributes for digital cameras on their relevance and importance. The top seven attributes were retained for the study (megapixels, price, optical zoom, base memory, digital zoom, design, and red-eye reduction), with the two most important attributes (megapixels and price) held constant across conditions to control for scenarios where one attribute overwhelmingly dominates the others. Information about these two attributes was provided as part of the task description.

displayed in rows and attribute information displayed in columns. The matrix had 20 cells (4 products × 5 attributes) in the low-decision-complexity condition, 40 cells (8 products × 5 attributes) in the moderate-decision-complexity condition, and 80 cells (16 products × 5 attributes) in the high-decision-complexity condition. Information about the attribute values was hidden behind opaque boxes. Moving the mouse cursor over a box revealed its content, and the information remained visible until the cursor was moved out of the box. Thus, information was available for only one box at a time.

When designing the product × attribute matrix, the product characteristics were specified in such a way that there was a uniform distribution of attribute levels across all attributes and alternatives (Lurie 2004). All products in the set received the same number of highest ratings, second ratings, third ratings, and so forth, until the lowest ratings. To control for potential effects of inter-attribute correlation (Payne et al. 1993), the average inter-attribute correlations was around zero. Also, the camera featured in the ad was slightly less attractive relative to other alternatives in the choice set (i.e., its total rating across all five attributes was one unit lower than other cameras). Hence, we expect that participants will only choose this alternative when it has a hedonic value that offsets its lower functional value (i.e., when dampening of product-induced positive emotions does not occur). In contrast, we predict that participants who dampen their positive emotions and those in the neutral-emotion conditions will generally not choose this alternative. A randomly generated three-letter and three-digit name identified each digital camera. The product name and the position of the camera featured in the ad on the product × attribute matrix were systematically varied across participants, and no order effects were found. Finally, the products in the limited-choice conditions were rotated, such that for every product encountered in the extensive-choice condition there was an equivalent possibility of

the same product being encountered in the limited-choice conditions.

To test our predictions that dampening positive emotions impacts decision-making processes, and building on prior research (Lurie 2004; Payne et al. 1993), the main dependent variables in this task pertain to (a) the amount of processing, (b) selectivity in processing, and (c) the pattern of processing. Specifically, the total amount of processing was assessed by the relative number of acquisitions (RACQ). This measure captures the average number of times information items were opened during the decision process as a fraction of the total information available. An additional measure that relates to the amount of processing effort is the average time spent per item of information acquired (TPERACQ).

Selectivity in processing was measured by the relative attention devoted to the advertised product, assessed by the proportion of the total time acquiring information that was spent in cells involving the advertised product (PTAP). Two additional measures related to selectivity are the log of variances in the proportions of time spent acquiring information on each alternative (VAR-ALTER) and on each attribute (VAR-ATTRIB).

Finally, a measure indicative of the overall information search pattern, defined in terms of the sequence of information acquisitions (by attribute vs. by alternative) was included (PATTERN). This measure is obtained by calculating the number of alternative-based transitions minus the number of attribute-based transitions divided by the sum of these two types of transitions. This index ranges from -1 (indicating only attribute-based processing) to +1 (indicating only alternative-based processing). A PATTERN score indicating more alternative-based processing (e.g., a higher value) is interpreted as indicating greater depth of processing.

Phase V: Post-Experimental Questionnaire. At the end of the

experiment, participants completed a questionnaire that included a set of manipulation checks and control variables. First, the manipulation check for product-specific emotions (α = .94), self-reports of dampening (α = .85) and maintaining (α = .86) positive emotions toward the focal product, the manipulation check of decision complexity (α = .75), self-reports of depth of processing (α = .78), and self-reports of choice confidence (r = .74) were completed using the same scales as in Study 1. As a check on the effectiveness of the CFC manipulation, participants were also asked the following three questions (α = .90): "When confronted with a decision, people can focus more on the short-term or on the long-term outcomes of their behavior? When choosing a digital camera, did you…" (1 = focus more on the short-term outcomes; 7 = focus more on the long-term outcomes), "When choosing a digital camera, to what extent did you…" (1 = consider your immediate satisfaction with the digital camera; 7 = consider your satisfaction with the digital camera in the future), and "To what extent was your choice for a digital camera only influenced by the future consequences of your decision?" (1 = not at all; 7 = very much). Next, participants were asked to indicate their level of involvement with the choice task (adapted from Pham and Avnet 2004) on two seven-point items anchored at "strongly disagree/strongly agree" (r = .67): "I did not take the task of choosing the digital camera seriously" (reverse-scored) and "I really chose a digital camera as if I actually needed to buy one." Finally and for control purposes, participants completed Beatty and Talpade's (1994) Product Knowledge Scale (α = .73).

Phase VI: Debriefing. After completing the post-experimental questionnaire, a funneled debriefing procedure (adapted from Chartrand and Bargh 1996) was used to assess whether participants had guessed the true nature of the experiment and had suspected any relation between the different tasks. No participant

showed any awareness or suspicion of the manipulations or the link between the different tasks. They were finally thanked and debriefed.

Results

Manipulation Checks

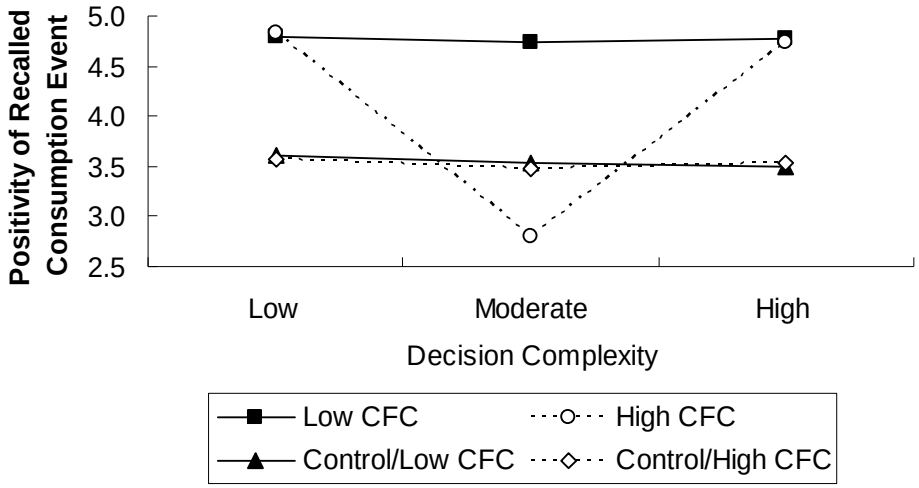
As expected, participants in the high-CFC condition (M = 5.04) reported to be more focused on the long-term outcomes of their decisions than those in the low-CFC condition (M = 2.66; $F(1, 168) = 289.57$, $p < .001$). Also, the positive-affect-eliciting ad produced more positive emotional responses toward the digital camera relative to the nonaffect-eliciting ad (M = 4.32 vs. 2.77; $F(1, 168) = 85.88$, $p < .001$). The manipulation for decision complexity was also effective. Increasing the number of alternatives generally increased participants' perceptions of decision complexity from 3.08 to 4.06 to 5.24 in the 4-, 8-, and 16-alternatives conditions, respectively ($F(1, 168) = 89.05$, $p < .001$). No other effects were significant for all measures (see Table 4.3).

Dampening/Maintaining

In support of our reasoning, we found a three-way (CFC × product-elicited emotions × decision complexity) interaction for participants' ratings of the positivity of their recalled consumption events ($F(2, 168) = 3.17$, $p < .05$). As can been seen in Figure 4.2, within the positive-emotion conditions, participants in the high-CFC condition recalled less positive consumption experiences in moderate decision complexity contexts relative to those in low ($t(168) = -4.74$, $p < .001$) and high ($t(168) = 4.51$, $p < .001$) decision complexity contexts. In contrast, there were no significant changes in

the positivity of the recalled consumption events for participants in the low-CFC condition across low, moderate, and high decision complexity contexts (*t*'s < 1). Within the neutral-emotion conditions no differences were found (*t*'s < 1).

FIGURE 4.2. Study 2: Effects of Decision Complexity and CFC on Recall of Positive Consumption Events



An additional measure, indicative of the type of positive emotion regulation used, consists of participants' self-reports of dampening and maintaining. Providing additional support for our reasoning, results from separate 2 × 2 × 3 ANOVAs showed a significant three-way interaction for dampening ($F(2, 168) = 4.63$, $p < .02$) and maintaining ($F(1, 168) = 3.13$, $p < .05$), again reflecting the same pattern of means (see Table 4.3). In addition, the results reported above did not change after controlling for product knowledge and the level of positive emotions experienced toward the focal product.

TABLE 4.3. Study 2: Means as a Function of Product-Induced Positive Emotions, Decision Complexity, and CFC

	Positive emotions						Neutral emotions					
	Low complexity		Moderate complexity		High complexity		Low complexity		Moderate complexity		High complexity	
	Low CFC	High CFC	Low CFC	High CFC	Low CFC	High CFC	Low CFC	High CFC	Low CFC	High CFC	Low CFC	High CFC
Manipulation check of CFC	2.64	4.98	2.71	5.22	2.69	5.18	2.69	4.96	2.67	4.89	2.53	5.04
Manipulation check of product-eliciting emotions	4.37	4.19	4.42	4.39	4.24	4.28	2.88	2.86	2.71	2.66	2.90	2.62
Manipulation check of decision complexity	3.03	3.22	4.08	4.05	5.28	5.13	2.92	3.17	4.07	4.03	5.23	5.32
Positivity of recalled consumption event	4.80	4.83	4.73	2.80	4.77	4.73	3.60	3.57	3.53	3.47	3.50	3.53
Dampening (self-reports)	2.84	3.13	2.72	4.97	2.81	2.99	2.48	2.39	2.55	2.57	2.51	2.48
Maintaining (self-reports)	4.10	4.02	4.07	2.32	4.03	3.95	2.85	2.77	2.88	2.87	2.80	2.82
Involvement in choice task	4.10	4.00	4.17	4.13	4.07	4.03	3.93	3.87	3.97	3.90	4.03	3.93
RACQ	1.82	1.92	1.73	3.91	1.53	1.60	2.90	3.07	2.14	2.09	1.83	1.93
TPERACQ	.98	1.01	.91	1.28	.87	.89	1.15	1.17	1.08	1.13	1.00	1.02
PTAP	.32	.30	.31	.10	.33	.32	.23	.24	.15	.14	.08	.05
VAR-ALTER	.0074	.0069	.0088	.0013	.0138	.0116	.0043	.0030	.0071	.0073	.0086	.0073

TABLE 4.3. Continued

	Positive emotions						Neutral emotions					
	Low complexity		Moderate complexity		High complexity		Low complexity		Moderate complexity		High complexity	
	Low CFC	High CFC	Low CFC	High CFC	Low CFC	High CFC	Low CFC	High CFC	Low CFC	High CFC	Low CFC	High CFC
VAR-ATTRIB	.0219	.0198	.0234	.0017	.0317	.0293	.0123	.0090	.0131	.0153	.0227	.0204
PATTERN	-.26	-.25	-.32	.33	-.44	-.39	-.08	-.05	-.16	-.19	-.27	-.24
Depth of processing (self-reports)	2.97	3.01	2.92	4.97	2.63	2.76	3.87	3.93	3.79	3.88	3.36	3.40
Choice confidence (self-reports)	5.30	5.23	5.27	5.83	5.10	5.07	4.37	4.40	4.23	4.17	3.67	3.13

NOTE.–CFC = consideration of future consequences. RACQ = relative number of acquisitions. TPERACQ = time per acquisition. PTAP = proportion of time on the advertised product. VAR-ALTER = variance in the proportion of time spent per alternative. VAR-ATTRIB = variance in the proportion of time spent per attribute. PATTERN = index reflecting relative amount of attribute-based (-) and alternative-based (+) processing. *n* = 15 for each cell.

Depth of Decision Processing

Overall, participants reported to be involved during the choice task (Moverall = 4.01). Participants made on average 95 acquisitions per choice set with an average time per acquisition of 1.04 seconds, and they spent 22% of their time acquiring information on the advertised digital camera. To determine how CFC, product-elicited emotions, and decision complexity in a choice set influence information acquisition, we ran a 2 × 2 × 3 MANOVA on the aforementioned six processing measures. The predicted three-way interaction emerged for all six measures: RACQ ($F(2, 168) = 8.81$, $p < .001$); TPERACQ ($F(2, 168) = 4.71$, $p < .02$); PTAP ($F(2, 168) = 7.01$, $p < .01$); VAR-ALTER ($F(2, 168) = 3.93$, $p < .03$); VAR-ATTRIB ($F(2, 168) = 4.27$, $p < .02$); PATTERN ($F(2, 168) = 10.28$, $p < .001$). The means by condition are given in Table 4.3.

Specifically and as hypothesized, within the positive-emotion conditions, moderate relative to both low and high decision complexity contexts were associated with more information acquisitions (moderate vs. low: $t(168) = 6.39$, $p < .001$; moderate vs. high: $t(168) = -7.40$, $p < .001$), more time spent on each item of information acquired (moderate vs. low: $t(168) = 4.47$, $p < .001$; moderate vs. high: $t(168) = -6.52$, $p < .001$), lower focus on the advertised camera (moderate vs. low: $t(168) = -7.00$, $p < .001$; moderate vs. high: $t(168) = 7.73$, $p < .001$), less selectivity for alternatives (moderate vs. low: $t(168) = -3.48$, $p < .01$; moderate vs. high: $t(168) = 6.43$, $p < .001$) and attributes (moderate vs. low: $t(168) = -3.75$, $p < .001$; moderate vs. high: $t(168) = 5.74$, $p < .001$), and more alternative-based processing (moderate vs. low: $t(168) = 6.83$, $p < .001$; moderate vs. high: $t(168) = -8.43$, $p < .001$) for participants in the high-CFC condition. That is, the results showed that individuals that were focused on the future outcomes of their current choices adapted to moderate

decision complexity environments by slowing down processing, decreasing selectivity in processing, and moving toward more alternative-based processing.

In contrast, again within the positive-emotion conditions, participants in the low-CFC condition generally acquired few items of information, spent little time per item of information acquired, spent more time on the advertised camera, were selective in processing per alternative and attribute, and processed by attribute across all levels of decision complexity (see Table 4.3). The values for TPERACQ, VAR-ALTER, and VAR-ATTRIB (high vs. low complexity: all $|t$'s$| > |1.98|$, all p's $< .05$), but not for RACQ, PTAP, and PATTERN (high vs. low complexity: all $|t$'s$| < |1.6|$, all p's $> .11$), became significantly more pronounced in high complexity contexts.

In line with prior decision research, within the neutral-emotion conditions, increasing levels of decision complexity were generally associated with decreased information processing, increased selectivity, and increased attribute-based processing for both participants in the high- and low-CFC conditions (high vs. low: all $|t$'s$| > |2.15|$, all p's $< .04$).

The results for self-reports of depth of processing reflected the same pattern of means (see Table 4.3). Also, the general pattern of adaptivity in depth of processing described above remained significant after controlling for product knowledge and task involvement.

Product Choice

A Categorical Analysis of Variance confirmed that product choice was affected by decision complexity and CFC ($\chi 2$ (2) = 7.02, $p < .03$). Indeed and as expected, planned contrasts revealed that within the positive-emotion conditions, participants in the high-CFC condition were less likely to choose the advertised camera in moderate

decision complexity settings (7%) than were those in low (67%; $\chi 2$ (1) = 13.00, p < .001) and high decision complexity settings (73%; $\chi 2$ (1) = 10.76, p < .01). In contrast, low-CFC participants were generally likely to choose the advertised camera (73%, 73%, 87%, all p's > .90) in the low, moderate, and high decision complexity conditions. The fact that participants chose the camera featured in the ad, despite it being a slightly less attractive option, attests to the strong biasing effects that positive emotions elicited by decision alternatives can have in consumption contexts.

Within the neutral-emotion conditions, there was considerable heterogeneity in the chosen camera for participants across all decision complexity and CFC conditions. Overall, participants in these conditions did not choose the advertised camera (Moverall = 10%).

Choice Confidence

Consistent with the findings of Study 1, in the positive-emotion conditions choice confidence was highest when participants engaged in dampening (see Table 4.3). In the neutral-emotion conditions, higher levels of decision complexity were associated with lower choice confidence both for high- (high vs. low complexity: $t(168) = -2.02$, $p < .05$) and low-CFC conditions (high vs. low complexity: all $t(168) = -3.65$, $p < .001$).

Dampening as a Debiasing Mechanism

Replicating the results of Study 1, dampening was found to significantly impact the depth of decision processing, product choice, and choice confidence in the predicted directions (all p's < .05). Central to our predictions, dampening was found to fully account for the influence decision complexity and CFC on these behaviors.

Discussion

Study 2 extends the findings of Study 1 by showing that situational and chronic individual differences in consideration of future consequences influence emotion regulation and decision behavior in a similar manner. Unlike in Study 1, in this study detailed emotion regulation behaviors and decision processes were measured directly and unobtrusively in a controlled laboratory setting. The fact that the results closely mirror those of Study 1 provides converging evidence for the spontaneous use and effectiveness of dampening as a debiasing mechanism.

GENERAL DISCUSSION

Consumers often experience positive emotions in their everyday consumption decisions. Letting these emotions be our guides when forming judgments and making choices is, on many occasions, a smart decision rule. However, positive emotions can also be misleading. Results from two studies provide converging evidence that, although typically governed by pleasure, consumers do sometimes deliberately regulate their positive emotions downward in order to prevent the biasing effects that using the affect heuristic can have on their mental processes. Such strategic dampening of positive emotions occurs even when this violates the fundamental hedonic motive of pursuing pleasure. We have found that consumers' attempts to dampen their positive emotions toward a focal product critically depend on decision complexity, on the cognitive side, and on consideration of future consequences, on the motivational side. Specifically, consumers that are more focused on the future than on the immediate outcomes of their currents actions are more likely to dampen such positive emotions in moderate rather than in small or large choice sets. Of importance, we also found that these regulation attempts are effective in inoculating consumers'

decision processes against the adverse influences of positive emotions. Our results show that dampening leads to changes in the depth of decision processing, product choice, and choice confidence and, in doing so, produces adaptive consumption behaviors and outcomes. These effects were observed over the course of daily life (Study 1) and in controlled experimental settings (Study 2), and both in situations where differences in consideration of future consequences were chronic (Study 1) or situational (Study 2). This pattern of results was also independent of individual differences in need for cognition, impulsive buying, self-esteem, and product knowledge (Studies 1 and 2), and was found for self-reported (Studies 1 and 2) and unobtrusive measures of emotion regulation and decision behavior (Study 2). The consistency of the findings across different methodologies and measures is reassuring for the importance of the proposed dynamics of bias prevention in making affect-based consumption decisions.

These findings contribute to research on consumer judgment and decision making in several ways. First, they show that consumers can spontaneously identify the need to protect their decision processes from the biasing influences of positive emotions, and deliberately engage in attempts to do so. The fact that consumers initiate preventive debiasing efforts on their own is particularly impressive in light of evidence that bias correction is not a default response and only occurs in the presence of blatant or conditional warnings (e.g., Wegener and Petty 1995; Stapel et al.1998). Second, the results demonstrate that these efforts to regulate positive emotions toward a target have clear cognitive and behavioral consequences which contribute to adaptive functioning in consumption contexts. We found that whether consumers maintain or dampen their product-induced positive emotions has different implications for how they reach decisions, which choices they make, and ultimately

how they feel about these choices. Thus, rather than engaging in remedial action after judgments are biased–an often ineffective strategy (e.g., Petty and Wegener 1993; Stapel et al. 1998)–we show that consumers can anticipatorily prevent their initial affective impressions from tainting their decision processes and, in this way, not let biased judgments emerge in the first place.

These results provide initial insights into the dynamics of bias prevention in affect-based judgments and there are many avenues for future work. For instance, alternative strategies for avoiding bias include controlling one's exposure to biasing stimuli or preparing oneself prior to anticipated exposure (Hoch and Loewenstein 1991; Wilson et al. 1998). Although these may not always be feasible, desirable or successful they are nonetheless used (e.g., using the remote control to manage exposure to advertising). Future research is needed to understand how frequently different strategies are employed, the conditions that may lead consumers to use a particular strategy and their implications for consumption outcomes.

The findings also contribute to research on predecision processing. Meloy (2000) found that consumers in a positive mood distort sequentially presented product information to support a prior preference for one alternative. We extend this finding by specifying conditions under which consumers deliberately dampen their positive emotions toward a tentatively preferred product in order to avoid such distortion and the ensuing suboptimal decisions.

Our results also add to recent research on the behavioral implications of emotions suggesting that positive emotions broaden individuals' thought-action repertoires (Fredrickson, 2001). Our results qualify this view by identifying boundaries to this broadening effect. In particular, we found that, in decision making, positive emotions elicited by a specific target can narrow individuals' attention and

increase selectivity in decision making. Evidence for broadening was only obtained when individuals deliberately attempted to overcome this narrowing effect via dampening. Further research is needed to examine whether the eliciting factors and the consequences of different emotion regulation strategies emerge for other positive emotions and motivational principles beyond the ones that we have studied here. For example, different emotions may pose distinct emotion regulatory challenges, and the consequences of emotion regulation may vary according to whether the specific emotion being regulated is excitement, joy, hope, or some other positive emotion.

In conclusion, the present research sheds new light on consumers' ability to monitor and control their judgment and decision processes in the service of their long-term goals. It shows that consumers selectively use their repertoire of emotion regulatory responses to adjust their decision behavior to the varying demands and biasing influences of consumption environments, with an appreciation of the differential costs and benefits of dampening and maintaining positive emotions. In this way, the present article demonstrates that although consumers prefer to see la vie en rose, they do sometimes take off their rose-colored glasses.

5

Concluding Thoughts

Looking Backward, Looking Forward

EMOTIONS PERMEATE ALL aspects of human life. Emotions infuse goals with meaning, from the deepest wants to fleeting desires. Emotions guide actions, from lasting commitments to immediate choices. Emotions color perception, from memories of the past to expectations about the future. They provide us information about the world, from our inner selves to the external environment, from people to products.

The principle that consumers are motivated to feel good has dominated scholars' understanding of the interplay between emotions and consumer behavior. According to this pleasure principle the goals that we pursue, the states of the world that we prefer, and the options that we choose are those that allow us to maximize pleasure and minimize pain. Interestingly, despite the power and ubiquity of the pleasure principle, research has also suggested that neutrality rather than pleasure, and stability rather than movement, are the hallmarks of adaptive emotional functioning. According to this view consumption is governed by a principle of hedonic

homeostasis (from the Greek *homo* meaning "same" and *stasis* meaning "fixity" or "lack of movement"): as soon as consumers experience happiness or sadness, these deviations from a baseline level of affect are corrected automatically by counteracting psychological mechanisms.

The previous chapters provided evidence that both these principles, pleasure and homeostasis, can and do govern the flow of consumer behavior. Research reported in Chapter 2 shows that regulatory focus influences whether or not consumers reiterate those behaviors that led to pleasure in the past. Results from three studies show that a promotion focus increases consumers' tendency to attempt to repeat in the future what they have enjoyed in the past. Specifically, consumers with promotion pride reported higher intentions of returning to a store where they had previously experienced pleasure (i.e., felt pride in negotiating a discount), presumably in an attempt to repeat this outcome. In contrast, consumers with prevention pride forsook the immediate pleasant experience of returning to a satisfactory store in an attempt to obtain better consumption outcomes.

Chapter 3 shows that, in multiple-goal consumption environments, whether or not goal-directed behavior is congruent with the pleasure principle or with the principle of hedonic homeostasis is determined by goal distance. Results from two studies show that when consumers are far from goal attainment their behavior is consistent with the pursuit of pleasure, with positive emotions leading to the persistence of effort and negative emotions leading to the discontinuation of effort and its reallocation to alternative goal domains. Conversely, when consumers were close to goal attainment, their actions were congruent with hedonic homeostasis. In such cases, positive emotions stemming from progress in a goal domain led to a reduction of effort in that domain and thus to a reduction in positive feelings. Negative emotions

stemming from lack of progress in a goal domain led to an increase in goal-directed effort in that domain, and therefore to a decrease in negative emotions.

Chapter 4 provided another perspective on the operation of both principles–pleasure and hedonic homeostasis–in shaping consumer behavior. Results from two studies show that, although consumers generally pursue pleasure in their decisions and choices, sometimes they purposely dampen their positive emotions in order to achieve a state of neutral affect conducive to more deliberative decision processes. Evidence showing that consumers sometimes avoided immediate pleasure in order to adapt their decision process to situational demands clearly demonstrated that consumers can not only be guided by a principle of hedonic homeostasis but, more importantly, that their consumption choices can become more adaptive by doing so.

As such, the findings reported in the preceding chapters suggest that the affective system can be highly versatile and adapt to variations in consumers' goals and environmental demands by oscillating between distinct patterns of affective functioning. More specifically, to meet shifting contingencies the affective system (a) may or may not follow the pleasure principle, (b) may or may not follow the principle of hedonic homeostasis, or (c) may alternate between these two principles.

In this concluding chapter I take a step further and outline the fundamentals of a model in which both principles–pleasure and hedonic homeostasis–are elements of a more general system by which consumers continuously adjust how they respond to consumption emotions in order to produce the right responses, about the right stimuli, at the right time and, in this way, maximize the adaptive value of their emotions in consumption. Although the ideas presented in this chapter remain to be explored and are to some extent speculative, I suggest possible connections with extant empirical research.

TWO TRADITIONS IN THE STUDY OF AFFECTIVE FUNCTIONING

The Pleasure Principle

There is little doubt that the desire to experience pleasure is one of the most fundamental human motives. Philosophers from ancient Greece (e.g., Aristippus, c. 435-356 B.C.), through 17th- (Hobbes 1651/1982) and 18th-century Britain (e.g., Bentham 1789/1948), to 20th-century Austria (e.g., Freud 1920/1950) have emphasized the importance of hedonic pleasure in the geography of human life and its intrinsic link to well-being. Freud (1920/1952) termed this desire to achieve and maintain pleasant states the pleasure principle. As he succinctly put it: "our entire psychical activity is bent upon *procuring pleasure* and *avoiding pain*" (p. 365, emphasis in the original).

Biological, linguistic, and psychological perspectives on emotions suggest that individuals' desire for pleasure represents a universal human tendency with clear behavioral correlates. Indeed, research has provided evidence for the evolutionary (e.g., Johnston 1999) and the biological (e.g., Cacioppo et al. 2000) bases of approaching pleasure and avoiding pain as general dimensions of human response. Anthropological research and referential studies of language have found that the expressions "feeling good" and "feeling bad" are common to the vocabulary of all known human languages (e.g., Lutz and White 1986; Russel 1991, 2003; Wierzbicka 1999). Research on the psychology of emotions also suggests that feelings of pleasure and pain are the only irreducible dimensions of affective experience (Frijda 1999).

There is also considerable evidence for the pervasiveness of the pleasure principle in consumption. Research has found that consumption is generally

associated with positive emotions (Derbaix and Pahm 1991; Richins 1997), and that a variety of consumption activities are purposely directed toward the pursuit of pleasure (Holbrook and Hirschman 1982). In fact, the concepts of pleasure and displeasure are fundamental to many theories of consumer behavior, including judgment (e.g., Adaval 2003; Pham et al. 2001), decision making (e.g., Luce 1998; Pham 1998), consumption emotions (e.g., Bagozzi, Gopinath, and Nyer 1999), and mood regulation (e.g., Cohen and Andrade 2004). The maximization of pleasure is, for example, a central principle guiding consumers' judgment and decision making and often provides a common yardstick in terms of which disparate options are compared (Pham 2004). Consistent with this 'feelings-as-information" hypothesis, research has demonstrated that consumers often use their current positive emotions toward a target to infer their attitudes and preferences, and generally choose the options that elicit more positive emotions (e.g., Pham 1998; Schwarz and Clore 1996). Research has also found that consumers not only strive for pleasure but, importantly, that they also engage in deliberate attempts to manage their affective experience in order to maintain and protect positive states. Efforts to maintain a positive mood have been found to influence, for instance, variety-seeking (e.g., Kahn and Isen 1993), and how consumers process product information (e.g., Adaval 2001; Meloy 2000) and persuasive messages (e.g., Wegener and Petty 1994). The allure of pleasure in consumption is perhaps nowhere more apparent than it is in research showing that consumers sometimes act against their own better judgment, and are even willing to incur future costs in order to maximize their immediate pleasure. For instance, Hoch and Loewenstein (1991) have suggested that impulsive consumption is primarily driven by an attempt to eliminate the pain associated with not buying a desired product.

In sum, the pleasure principle conceptualizes the affective system as a mechanism for identifying sources of pleasure and pain in consumption environments. According to this perspective, consumer behavior is primarily directed at attaining and protecting positive hedonic states. It therefore predicts that affective functioning is unidirectional and unvarying: consumers always approach sources of pleasure (e.g., buy the products that elicit positive feelings) and avoid sources of pain (e.g., not repurchase products that have led to disappointment).

The Principle of Hedonic Homeostasis

Despite the currency of the pleasure principle, a second tradition in affect research has emerged that emphasizes the role of affective balance and constancy in promoting adaptation and governing consumer behavior. This homeostatic principle postulates not only that affective states tend toward stability but, more importantly, that a number of psychological mechanisms are in place that actively preserve balance and constancy by monitoring and correcting deviations (positive or negative) from baseline levels of affect.

The notion that affective balance and constancy can be functional is integral to various philosophical perspectives on emotion. From Aristotle to the Stoics, from Descartes to Kant, philosophers have identified the negative implications that can arise from being too euphoric or dysphoric, and have questioned the pursuit of pleasure as a desirable end. This idea was well expressed by the Stoic philosopher Epictetus: “If you have received the impression of any pleasure, guard yourself against being carried away by it . . . . take care that the charm of it, and the pleasure, and the attraction of it should not conquer you” (quoted in Hadas 1961, p. 96-97). Philosophers as early as Hippocrates (c. 450-380 B.C.) have also suggested that

organisms tend toward balance and equilibrium, a property that forms the basis of homeostatic processes.

In consumer research, the principle of hedonic homeostasis is central to optimum stimulation level (OSL) theory. Research in OSL has demonstrated that consumer behavior is often instigated by a desire attain to a satisfactory (homeostatic) level of stimulation obtained from the consumption environment or from consumers' internal states (Steenkamp and Baumgartner 1992; Steenkamp, Baumgartner, and Van der Wulp 1996). Consumers are assumed to have idiosyncratic preferences for a fixed set point level of stimulation (optimum stimulation level). Deviations from this set point are accompanied by negative feelings and have been found to trigger attempts to reestablish homeostasis by reducing or increasing stimulation (e.g., Steenkamp and Baumgartner 1992). Hedonic homeostasis is, therefore, the primary regulatory mechanism implicated in OSL theories: it is the desire to reduce the negative feelings elicited by departures from the optimum stimulation level and to return to a satisfactory level of affect that activates discrepancy-reduction processes. In a number of studies Steenkamp and Baumgartner (1992) have provided considerable evidence that consumers' OSL is systematically related to a wide range of exploratory consumer behaviors, including curiosity-motivated behavior, variety-seeking, and risk-taking.

The homeostasic construct is also fundamental to psychological theories of affect regulation. For example, Solomon's opponent process theory (Solomon, 1980) proposes a physiological basis for the operation of homeostatic processes in affect regulation. It clearly states that individuals possess physiological mechanisms to "oppose or suppress many types of emotional arousal or hedonic processes, whether they are pleasurable or aversive" (p. 698). The experience of positive or negative

affect arising from physical stimuli activates a balancing process that produces an affective reaction of equivalent magnitude but opposing hedonic tone. A well-known example described by Solomon (1980) refers to the affective reactions that unfold during parachute jumping: the early intense fear experienced before and during the free-fall is, after a safe landing, followed by intense feelings of elation and joy. Despite its ability to explain affective responses to physical stimuli, there is however suggestive evidence that opponent process theory performs less well in accounting for the pattern of emotional reactions to psychological events (Sandvik, Diener, and Larsen 1985).

Forgas, Johnson, and Ciarrochi (1998) hypothesized that people spontaneously manage their moods over time in order to ensure that their daily mood fluctuations remain within a limited range and thus maintain affect control. Support for this model was obtained in several studies (Forgas and Ciarrochi 2002) showing that, following an initial positive or negative mood induction, participants first produced mood-congruent responses which, over time, were replaced by mood-incongruent responses (see also Sedikides 1994). This temporal sequence of mood-congruent followed by mood-incongruent processing suggests that individuals spontaneously reacted to deviations from a baseline neutral affective state by attempting to reestablish homeostatic balance.

Similarly, Larsen (2000) proposed a model of mood regulation which draws on principles of cybernetic control. In his Control Model of Mood Regulation individuals are assumed to have a desired affective state (fixed hedonic set point), and to actively take actions to minimize departures from this desired state in a volitional attempt to control their feelings. In a different context, Erber and Erber (2001) have also hypothesized in their Social Constraint Model of Mood Regulation that people

may adapt to social constraints by regulating their affective states toward neutral affect. Evidence for this model was obtained in research showing that participants with a positive or negative mood selected mood-incongruent material in an attempt to neutralize their mood when anticipating social interaction with a stranger (Erber, et al. 1996).

Although focused on the regulation of goal-directed behavior rather than of affect per se, Carver and Scheier's (1998) cybernetic control model also has homeostatic implications for affect regulation. According to this model, discrepancies between individuals' current states and their desired goals, signaled by positive or negative emotions, elicit corrective self-regulatory responses that return the system to homeostatic balance. Because the reduction of discrepancies is likely to be accompanied by a decrease in positive or negative emotions, a shift toward neutral affect may occur as a byproduct of behavioral self-regulation.

In sum, the principle of hedonic homeostasis conceptualizes the affective system as a mechanism for monitoring discrepancies from a fixed hedonic set point. Deviations from this set point arising from positive or negative emotions are predicted to trigger counteracting discrepancy-reduction processes directed at reestablishing affective balance. According to this perspective, whether or not consumers deliberately pursue pleasure is a function of their current affective state. Negative emotions are a signal that consumption stimuli or outcomes are undesirable and that consumers should identify and pursue more desirable ones (e.g., by engaging in exploratory behavior). Positive emotions also signal an undesirable state that must be corrected: they may contaminate consumers' mental processes (Chapter 4), reduce their sensitivity to new stimuli, or produce excessive levels of stimulation (Steenkamp and Baumgartner 1992).

AN ALLODYNAMIC MODEL OF AFFECT

The principles of pleasure and of hedonic homeostasis represent two contrasting perspectives on the fundamental dynamics of the affective system. The hedonic tradition of the pleasure principle views affect as a system for signaling sources of pleasure and pain in the consumption environment that directs consumers toward positivity. It states that consumers invariably pursue pleasure in their consumption activities. The homeostatic tradition views affect as a system for signaling discrepancies from a fixed baseline level of affect that activates discrepancy-reducing responses once such deviations emerge. It states that consumers minimize the occurrence affective experiences above or below a fixed hedonic set point as a means of optimizing their consumption outcomes. Given the seeming inconsistency between these two perspectives, a critical question is whether these views are really mutually exclusive or can instead be integrated.

I conjecture that thinking about affective functioning as an *allodynamic* system may help bring together these accounts. Berntson and Cacioppo (2000) introduced the concept of allodynamic regulation to describe psychophysiological regulatory processes where (a) homeostatic regulation towards a regulatory set point may occur but may also be actively inhibited, and where (b) both the set point and the response characteristics of the regulatory system can be flexibly adjusted to meet shifting environmental demands. The notion of allodynamic regulation thus represents a more flexible and adaptive conceptualization of regulation that encompasses a variety of regulatory processes, including homeostasis, heterostasis, and allostasis (regulatory processes in which *only* the regulatory baseline may be adjusted to varying circumstances; Sterling and Eyer 1988).

An allodynamic perspective may offer an important advance over prior

conceptualizations of the affective system: it suggests that the pattern of behavioral response to emotional signals may be variable rather than fixed in order to maximize adaptation of consumer responses to existing or anticipated demands. In this way, it subsumes the contrasting principles of pleasure and of hedonic homeostasis, both entailing relatively fixed patterns (approach pleasure vs. maintain a hedonic set point) of how consumers respond to experienced emotions.

The notion, proposed in this chapter, that the pattern of allodynamic regulation that operates for psychophysiological processes may also characterize the regulation of consumers' behavioral responses to emotion is consistent with multilevel analyses of the affective system that emphasize the links between psychological and visceral processes (Cacioppo et al. 2000; Panksepp 2000). Research suggests, for instance, that somatovisceral activity, which is integral to allodynamic physiological regulation (Berntson and Cacioppo 2000), may also elicit emotional experiences (Cacioppo et al. 2000). More recently, Sterling (2004) argued that emotional experience and expression may be central elements underlying the modulation of human physiology. As he put it (p. 34): "human physiological regulation depends powerfully on a host of high-level neural mechanisms . . . [including] multiple emotions."

Mechanisms of Allodynamic Regulation

Berntson and Cacioppo (2000) identified six distinct mechanisms by which psychophysiological regulation can occur in allodynamic systems. I conjecture that the processes and mechanisms of psychophysiological regulation may reflect a broader set of regulatory principles that may also apply to the regulation of consumers' behavioral response to experienced emotions (here termed *affect response curve*). Specifically, the adaptive regulation of the affect system may entail changes in

the following regulatory parameters of consumers' affect response curve: (a) hedonic set point, (b) sensitivity, (c) linearity, (d) dynamic range, (e) temporal dynamics, and (f) stability. As such, an allodynamic perspective suggests a number or mechanisms that may introduce versatility in the linkage between consumers' emotional experiences and their behavioral responses, to which I now turn. I explore here the utility of the six mechanisms proposed by Berntson and Cacioppo (2000) beyond the somatovisceral/neural into the affective/cognitive domain of consumer functioning, following a research tradition of multilevel integrative analyses of human behavior (Cacioppo et al. 2000).

Hedonic set point

In everyday life consumers encounter a wide variety of consumption environments. From the highly pleasant environment of visiting a theme park or eating in a restaurant with friends, through the neutral environment of collecting clothes from the dry cleaner, to the negative environment of complaining about a defective product, the emotional valence of consumption contexts fluctuates enormously. Accordingly, the type of affective reactions and behavioral responses that are likely to be optimal in each consumption situation may also vary. An allodynamic conceptualization of affective functioning would suggest that consumers strive towards attaining an optimal hedonic set point by adjusting it upward or downward to meet the demands of the task at hand. In doing so, they may be able to maximize their consumption short- and long-term consumption outcomes such as enjoying to the fullest pleasurable experiences and experiencing regret and the disappointment associated with bad decisions. From this perspective, optimal adjustment of the hedonic set point would entail adopting a higher (more positive) set point when the consumption context

elicits primarily positive emotions (e.g., having fun in a theme park) than when it is primarily neutral (e.g., going to the dry cleaner) or negative (e.g., complaining about an unsatisfactory service encounter). In other words, whereas regulating emotions towards a negative set point when spending a pleasant time in theme park would perhaps be maladaptive, when complaining about a defective product it would be maladaptive failing to do so and instead trying to feel good (pleasure principle). Adopting a fixed hedonic set point (principle of hedonic homeostasis) would preclude adaptation altogether.

Sensitivity and Linearity

Consumption situations do not differ only in their valence but, importantly, also in the diagnosticity and goal relevance of emotions (e.g., Pham 1998). While in some consumption contexts experiencing positive emotions is the desired end (e.g., going on holidays), in other environments consumers may pursue other goals for which feelings may not be diagnostic (e.g., buying financial products). Thus, maximizing consumption outcomes over time may entail oscillating between pursuing pleasure, avoiding pain, maintaining a hedonic set point, or deliberately avoiding behavior to be influenced by emotions altogether. An allodynamic view suggests that the link between emotions and behavior may be regulated by varying the sensitivity (the intensity of emotions required to elicit a behavioral response) or the linearity (extent to which consumers' behavioral response is constant across the entire range of emotions) of the affect response curve. For instance, when on holidays consumers may have highly pleasurable experiences because they are more sensitive to their feelings. As a result, they approach and avoid more vigorously pleasant and unpleasant consumption stimuli, respectively (steeper affect response curve). On the

other hand, consumers may maximize their holiday experience by being highly responsive to their positive emotions while disregarding negative affectively-laden stimuli (non-linear affect response curve).

Dynamic Range

Consumer behavior is subject to a variety of social influences (Dahl, Manchanda, and Argo 2001; Lowrey, Otnes, and Ruth 2004) and social situations have been found to vary in the norms governing the acceptable range of emotional experience and expression (Erber et al. 1996). Accordingly, optimal functioning in consumption environments may require the regulation of behavioral responses to experienced emotions such as the extent to which emotions are expressed and shared. The allodynamic hypothesis suggests that consumers may be able to regulate the emotion-behavior link by adjusting the dynamic range of their affect response curve. The notion of dynamic range reflects the difference between the upper and lower levels of behavioral response across all possible levels of experienced emotions. In other words, affect response curves with a narrower dynamic range are associated with more restrained behavioral responses than curves with a broader dynamic range. For instance, when having dinner in an expensive and formal restaurant consumers may restrain their emotional expression irrespective of the intensity of their feelings (e.g., if they are dissatisfied with part of the meal they are likely to moderate the tone of their complain or may even not complain at all). In contrast, when having lunch in a roadside diner consumers that are not satisfied may be considerably vocal in their complaints.

Temporal Dynamics

The influence of emotions on consumer responses may differ in its latency and persistence which, in turn, may vary across consumption stimuli and environments. Research on the use of feelings as sources of information (e.g., Pham 2004) emphasizes that, in order to maximize consumption outcomes, consumers should be selective in their reliance on feelings to form judgments and make decisions. Accordingly, an allodynamic perspective on affective functioning suggests that adjustment in the temporal dynamics (latency and persistence) may provide a mechanism for matching the behavioral impact of emotions to their informational value. Thus, for instance, consumers may attempt to limit the duration of their positive emotions toward a particular brand as a means to evaluate other brands more carefully.

Stability

Allodynamic adjustments in the emotion-behavior link may not only occur momentarily to meet the demands of the current consumption environment but may also involve processes by which consumers optimize their behavioral response to emotions over time to meet a similar set of environmental conditions that are repeatedly encountered. This type of regulation occurs through changes in the stability of the behavioral response to experienced affect. Stability refers to the reproducibility of the affect response curve under comparable stimuli conditions. By varying the stability of their response to experienced emotions in a specific consumption environment, consumers may be able to reproduce behaviors that have led to favorable consumption outcomes in the past and discard dysfunctional responses. For example, consumers that generally respond to feelings of disappointment with a

service provider by switching to a different provider may realize that they can obtain better outcomes by complaining (e.g., obtain a refund) and, as a result, modify their response in subsequent service encounters.

Taken together, these six regulatory parameters may afford consumers a high level of flexibility in adjusting the linkage between experienced emotions and behavioral responses to meet shifting environmental demands. In doing so, an allodynamic perspective on the affective system suggests the possibility of complementarity between the two seminal principles of pleasure and of hedonic homeostasis, which have to date developed separately, and frames these principles within a broader model of affective functioning.

EVIDENCE FOR THE ALLODYNAMIC MODEL OF AFFECT

Thus far, I have outlined the fundamental processes of allodynamic regulation, but did not address an evidentiary base. I believe that there are some lines of suggestive evidence that point to something like allodynamic regulation at the center of consumers' affective functioning.

Daily Fluctuations in Emotional States

The principles of pleasure, hedonic homeostasis, and allodynamic regulation all imply distinct patterns of daily variation in ongoing affect. If affect operates according to the pleasure principle we should observe unidirectional efforts to achieve and preserve positive affect only interrupted by particularly negative events. Support for the homeostatic model would, instead, imply observing a relatively constant level of affect set around a hedonic set point and defended against discrepancies through the activation of discrepancy-reducing responses. A pattern of varying levels of affect

continuously adjusting to shifts in environmental demands would be consistent with allodynamic functioning. Therefore, the analysis of daily fluctuations in people's emotional states provides an informative window into the operating dynamics of the affective system.

Several studies, using daily diary and experience sampling methods, have examined the pattern of people's ongoing affective experiences over time, both hourly and daily (e.g., Kahneman et al. 2004, Reis et al. 2000). Together, these studies provide substantial evidence that, far from evidencing increasing levels of positivity or remaining stable around a hedonic set point, affect fluctuates markedly over the course of the day and across days: affect ranges from positive to negative and these variations can be fleeting or lasting. In this way, the results appear to suggest that individuals' affective functioning is perhaps regulated according to allodynamic principles that promote adaptation to shifting motivational and environmental demands.

Hedonic Adaptation

Research on hedonic adaptation also appears to provide suggestive evidence for the operation of allodynamic processes in affective functioning. The concept of hedonic adaptation refers to processes that attenuate the emotional intensity of affectively-relevant stimuli (positive or negative) by adjusting the baseline to which stimuli are compared. In hedonic adaptation this baseline is adjusted so that repeated or continued stimuli lose much of their emotional power over time (Helson 1947). Frederick and Loewenstein (1999) have suggested that two distinct mechanisms may produce adaptation: (a) processes that reduce people's affective reaction to stimuli by varying the level of stimulus intensity that is perceived as neutral, which they termed shifting

adaptation levels and (b) processes that reduce people's general affective reaction to stimuli, which they termed desensitization. Brickman and Campbell (1971) have described hedonic adaptation as a "hedonic treadmill" which "condemns men . . . to seek new levels of stimulation merely to maintain old levels of subjective pleasure, to never achieve any kind of permanent happiness or satisfaction" (p. 289).

Several studies have found evidence for these two types of hedonic adaptation. For example, Brickman, Coates and Janoff-Bullman (1978) found that winning between $50,000 and $1,000,000 did not significantly increase lottery winners' level of happiness relative to a control group one year after the event. Similar dynamics have been observed across a variety of positive and negative events including cosmetic surgery (Young, Nemecek, and Nemecek 1994) and bereavement (e.g., Wortman, Silver, and Kessler 1993).

Research has also found evidence for hedonic adaptation in consumption. For example, Hoch and Loewenstein (1991) suggested that adaptation processes are integral to impulsive behavior (time-inconsistent preferences). In particular, they argued that proximity to a product induces a process of adaptation by which consumers' become habituated to the notion of possessing the not-yet-purchased product. This adaptation is accompanied by a shift in consumers' reference point and a feeling of deprivation that can only be reduced by acquiring the product.

Clearly, the processes of shifting adaptation levels and desensitization seem to parallel two mechanisms underlying of allodynamic regulation: adjustments in the hedonic set point and changes in the sensitivity of the affect response curve, respectively. There are, however, two important differences. First, the processes of hedonic adaptation pertain to the link between stimuli and affective experience. In contrast, our characterization of the allodynamic is focused on the link between

experienced emotions and behavioral responses. Second, and perhaps more important, while hedonic adaptation is typically conceptualized as invariably entailing a reduction in people's sensitivity to affectively-relevant stimuli, allodynamic regulation may produce both increases and decreases in consumers' sensitivity to their feelings to match environmental demands.

Mood-As-Input Model

Research by Martin et al. (1993) on the motivational implications of moods suggests that the influence of moods on behavior is contingent on the criteria used to interpret them. In their studies, participants in a positive or negative mood were instructed to perform a variety of tasks under two different conditions. In one condition participants where instructed to continue as long as they enjoyed the task. In a second condition participants were asked to continue until they felt that they had made sufficient progress toward the task's goal. When told to continue until they no longer enjoyed the task, participants in a negative mood stopped sooner than those in a positive mood. However, when told to continue until they felt they had made sufficient progress, participants in a positive mood stopped sooner than those in a negative mood. In other words, participants' behavior was determined by the extent to the pursuit of pleasure or task performance was the active goal. Thus, this finding seems to corroborate the allodynamic notion that consumers' behavioral response to experienced emotions, rather than being fixed, is sensitive to variations in the task at hand.

Repurchase Behavior, Multiple Goal-Pursuit, and Emotion Regulation

Research reported in Chapters 2, 3 and 4 also appears consistent with the operation of allodynamic processes. It was found that rather than uniformly pursuing pleasure or invariably regulating their affective state toward a hedonic set point, consumers flexibly adjusted their behavioral responses to match motivational and situational demands.

CONCLUDING REMARKS

The pervasiveness of emotions in shaping consumers' judgments, decisions and choices underscores how crucial for consumption it is to have an affective system that is flexible and that activates the right behavioral responses, to the right stimuli, at the right time. Three empirical chapters (Chapters 2-4) provided evidence showing that consumers' behavioral response to experienced emotions can be highly versatile and adapt to variations in consumers' goals and environmental demands by oscillating between distinct patterns of affective functioning.

In this closing chapter I extended this a step further, by exploring and outlining a conceptualization of affect as an allodynamic system. I conjectured that an allodynamic perspective on affect may provide a way of reconciling the seemingly opposing principles of pleasure and of hedonic homeostasis by showing how they can both represent complementary processes of a more general model of affective functioning. More importantly, the allodynamic hypothesis may expand prior conceptualizations of the affective system by suggesting that the pattern of affective response may be variable rather than fixed.

Although allodynamic processes confer high versatility and adaptiveness,

there may be limits and costs as well. An important limit of adaptation was identified in Chapter 4: for adaptation to occur individuals must perceive both the need for adjustment (i.e., environmental demands that must be met and require changes in affective response) as well as the direction and magnitude of the required adjustment. Yet, this does not always occur and Chapter 4 described some of the cognitive and motivational factors that may account for this phenomenon. Failure to adapt to environmental demands may be associated with costs. It may, for instance, have negative consequences for the quality of decision making (Chapter 4) or degrade people's ability to enjoy a pleasurable event (Brickman and Campbell 1971). Even when allodynamic adaptation is successful, its versatility is not unlimited and costless. McEwen (1998) introduced the concept of allostatic load to describe the physiological cumulative wear and tear of an adaptive system as a result of its continuous adjustment to match shifting environmental demands. Such erosion may also occur, I suggest, in the affective system and, as a result, disrupt people's adaptive capacity, decrease subjective well-being, or even produce adverse physiological consequences (e.g., stress).

Much remains to be done to develop and test the proposals offered here. I have not, for instance, specified the factors that determine which regulatory parameters of the hedonic response curve individuals adjust and which explain differences in the magnitude and direction of these changes. Further research is also needed to examine the meta-cognitive processes that underlie allodynamic functioning and when these processes occur. How and when do people perceive the need to adjust their hedonic response curve? How are the parameters of adjustment selected? These questions, though important, remain unaddressed in the present analysis and await further conceptual and empirical attention.

In conclusion, this dissertation sheds new light on the role of positive emotions in consumption and on how consumers can respond flexibly and adaptively to these emotions. It provides evidence on the mechanisms by which adjustments in consumers' response to experienced emotions may take place, their limits, and some of the underlying processes. In this way, this dissertation demonstrates that the meaning of emotions is not unique but that it can vary in response to ongoing motivations, that emotions do not only influence consumers but are also shaped by consumers, and that pleasure is not the only path, but that the path to good consumption decisions often entails *leaving pleasure*.

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Samenvatting (Summary in Dutch)

Plezier Onderdrukken: Positieve Emoties en Doel-Georiënteerd Gedrag[13]

ZAL IK WEER teruggaan naar dat restaurant wat me zo goed beviel? Zal ik die leuke schoenen kopen? Zal ik zo hard blijven werken en sparen, of meer gaan genieten van het leven en meer uitgeven? Kleine verleidingen, belangrijke keuzes en nu en dan lastige dilemmas, dit zijn de vragen die verweven zijn in ons dagelijks leven, en emoties komen er overal in voor. Maar hoe beïnvloeden emoties deze consumptie beslissingen? Doen we altijd wat nú goed voelt of doen we soms wat slecht voelt maar beter is op de langere termijn? Wanneer luisteren we naar onze emoties en wanneer proberen we ze te vermijden? Dit zijn de vragen die dit proefschrift probeert te beantwoorden.

In de psychologie van consumptie, met zowel vreugde als trots, met zowel verrukking als hoop, vereist het behandelen van deze vragen het begrip over de rol van positieve emoties in het vormgeven van de belevingen, oordelen en keuzes van

[13] I thank Fleur Laros for kindly translating this summary into Dutch, and Ralf van der Lans for his helpful comments.

consumenten. De aanname dat consumenten gemotiveerd zijn om zich goed te voelen, zich naar plezier en weg van pijn te bewegen, heeft de psychologische theorieën over de rol van emoties in consumptie en dagelijks leven gedomineerd. Het heersende denkbeeld wat voortkomt uit dit plezier principe is dat het goed is om je goed te voelen, dat consumenten altijd de opties kiezen die meer positieve gevoelens oproepen, en dat het vermogen om positieve emoties te genereren onveranderlijk wordt beloond met gunstige gedragingen zoals loyaliteit.

In dit proefschrift ga ik verder dan het plezier principe betreffende menselijke motivatie en beargumenteer dat, in tegenstelling tot het altijd volgen van plezier of onveranderlijk herhalen van keuzes die voor plezier zorgden in het verleden, consumenten niet altijd positieve emoties nastreven en deze soms zelfs proberen te vermijden om andere consumptiedoelen te behalen. Mensen komen niet altijd terug naar de plaatsen die ze goed bevallen of kopen niet altijd de producten waar ze van houden, hoe sterk hun gevoelens ook zijn. Het doel van dit proefschrift is dan ook om te onderzoeken hoe mensen hun emotionele reactie en gedrag aanpassen om aan de motivationele en situationele eisen van de huidige taak te voldoen. Om de mogelijkheden van emotionele reacties te begrijpen, zie ik gevoel als een veelzijdig systeem wat individuen een rijk repertoire aan affectieve antwoordmogelijkheden biedt die flexibel kunnen worden toegepast.

Hoofdstuk 2 van dit proefschrift stelt vast dat, in tegenstelling tot de algemene aanname dat positieve emoties in het algemeen leiden tot gunstige gedragsintenties, gevoelens van trots de herhalingsaankoopintentie van consumenten kunnen verminderen. Resultaten van drie studies tonen aan dat de invloed van trots op de herhalingsaankoopintentie afhankelijk is van de zelf-regulerende doelen van consumenten, maar dat dit alleen het geval is bij consumenten met sterke gevoelens

van trots. Meer specifiek, van consumenten met hoge preventie trots is het minder waarschijnlijk dat ze overgaan tot een herhalingsaankoop dan diegenen met een hoge promotie trots, terwijl er geen verschil is tussen consumenten met lage promotie trots en lage preventie trots.

Hoofdstuk 3 presenteert en test een model met meerdere doelen dat specificeert hoe individuen selectief hun inspanning verdelen over meerdere doelen in de tijd. Het model voorspelt dat de keuze van individuen om hun inspanning te gaan vermeerderen, verminderen, het huidige doel opgeven, of een ander doel gaan vervolgen, afhangt van zowel de emoties die uit de doelvooruitgang vloeien en de nabijheid van het behalen van het toekomstig doel. Resultaten uit twee studies ondersteunen het voorgestelde model: zij laten zien dat positieve en negatieve doelafhankelijke emoties niet algemeen leiden tot het vasthouden of veranderen van doel verworvenheid leiden, maar in plaats daarvan dat beide tegengestelde effecten kunnen hebben op doelgericht gedrag afhankelijk van de nabijheid van het doel.

Om effectief te functioneren moeten consumenten subjectieve invloeden, die tot foute of suboptimale beoordelingen en beslissingen leiden, kunnen vermijden. In tegenstelling tot de algemene aanname dat mensen blind zijn voor hun eigen gekleurde denkbeeld, laat hoofdstuk 4 zien dat consumenten deze kunnen opsporen en hun beslissingsproces kunnen beschermen tegen de gekleurde invloeden van positieve emoties. Zij doen dit door hun positieve emoties ten opzichte van een aanvankelijk geprefereerd product te onderdrukken. Resultaten van twee studies laten zien dat deze onderdrukking zowel wordt bepaald door de complexiteit van de op handen zijnde keuze en het gewicht van de directe of toekomstige resultaten van de keuze. Deze onderdrukking komt het meest voor wanneer de complexiteit van de beslissing gemiddeld is en consumenten zich voornamelijk richten op de toekomstige resultaten

van hun huidige acties. De resultaten brengen ook aan het licht dat onderdrukking van emoties duidelijke en adaptieve gevolgen heeft voor de diepte van het beslissingsproces, aankoopbesluit, en vertrouwen in de keuze.

Samengevat betekenen de resultaten uit deze hoofdstukken dat het affectieve systeem erg veelzijdig kan zijn en zich kan aanpassen aan veranderingen in doelen van consumenten en eisen uit de omgeving door te fluctueren tussen verschillende patronen van affectief functioneren. Meer specifiek, om te voldoen aan veranderende omstandigheden kan het affectief systeem (a) wel of niet worden aangedreven door plezier (plezier principe), (b) wel of niet worden gedreven naar een basisniveau van affect (principe van hedonische homeostatis), of (c) afwisselen tussen deze twee principes. Hoofdstuk 5 gaat een stap verder en schetst de principes van een algemener model van affectief functioneren dat probeert deze schijnbare tegenstelling van de formuleringen op de fundamentele processen van het affectieve systeem te verenigen: het plezier principe en het principe van hedonische homeostatis.

Op deze manier demonstreert dit proefschrift dat de betekenis van emoties niet uniek is maar dat het kan variëren als reactie op motivaties van consumenten, dat emoties niet alleen consumenten beïnvloeden, maar ook gevormd worden door consumenten zelf, dat plezier niet de enige weg is, maar dat de weg naar goede consumptie beslissingen vaak het *onderdrukken van plezier* inhoudt.

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